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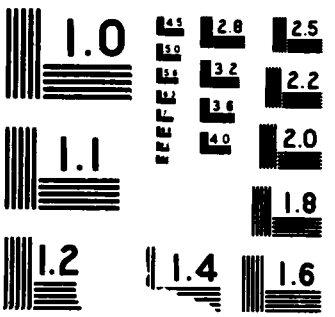
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DEPARTMENT OF DEFENSE

Volume I

Passenger Airlift Policies and Procedures Review

PASSENGER AIRLIFT POLICIES AND PROCEDURES REVIEW

Volume I

APRIL 2, 1986

DEPARTMENT OF DEFENSE

PREFACE

The "Passenger Airlift Policies and Procedures Review" is published in two volumes.

Volume I constitutes the basic study and is comprised of an executive summary, a section listing the findings and recommendations, and the body of the report.

Volume II contains the appendices identified as Appendix A through Appendix MM, each of which are referred to in Volume I. Also included are Appendix NN, "List of Abbreviations and Acronyms" and Appendix OO, "Definitions."

Executive Summary

PASSENGER AIRLIFT POLICIES AND PROCEDURES REVIEW

This study addresses Department of Defense (DoD) passenger airlift. It responds to a request by the Assistant Secretary of Defense (Acquisition and Logistics) [ASD(A&L)] and is intended to provide an assessment of the current passenger airlift system and, more importantly, to identify those actions which can be taken to further strengthen the DoD passenger airlift acquisition process. The findings and recommendations are intended to enhance the quality of airlift provided to DoD personnel and their families and to assure the safest possible air transportation for DoD and its people.

DoD is responsible for arranging the air transportation of over 6 million passengers per year. These passengers range from combat forces moving to and from exercise areas to military personnel and their families traveling to new duty locations. Because of historical precedent, Congressional and Administration policy, cognizance of DoD's wartime and contingency needs, and sound economics, most DoD passengers are moved by commercial carriers. Under the premise that passenger traffic, in both peace and war, will make use of commercial aircraft, military airlift aircraft are designed to transport cargo and are not well suited to routine passenger airlift.

Over the years, with the approval of the Congress, DoD has developed comprehensive policy and procedural guidance relative to passenger airlift. Central to that guidance is the notion that the DoD traveler is entitled to the same quality of service and standards of safety as the public at large. It is the responsibility of the Government in general, and DoD in particular, to ensure this result. For, unlike the private citizen who has the ability to elect alternative travel times, modes, and/or carriers,

the DoD traveler does not have this prerogative. Generally, he/she is ordered when, where, and how to travel. As a result, it is incumbent on DoD and the Government to arrange required air travel with full regard for the comfort, convenience, and safety of each and every DoD passenger. The fact that aviation in general, and DoD passenger airlift in particular, has been relatively accident-free should not be allowed to produce a false sense of security and confidence in the airlift system. Continuing vigilance and disciplined oversight are required to maintain a quality airlift system.

Following the tragic accident at Gander, Newfoundland, on December 12, 1985, which cost the lives of 248 soldiers of the 101st Airborne Division, DoD immediately embarked on a comprehensive review of DoD air travel policies and procedures to examine the roles and responsibilities involved in the air transportation of military personnel and their families. The review group was charged to undertake a complete and thorough examination to determine changes that should be made to improve the safety and quality of DoD air passenger travel.

Within the Government, the Department of Transportation (DoT) and the Federal Aviation Administration (FAA) are responsible for civil aviation. Within DoD, the Secretary of Defense has assigned policy responsibility for airlift to ASD(A&L) and the Secretary of the Air Force. The Military Traffic Management Command (MTMC), the Military Airlift Command (MAC), and traffic managers throughout DoD are charged with the responsibility to arrange transportation and air travel.

Basically, airlift of DoD passengers is accomplished by one of three methods. Most DoD passenger airlift takes the form of individual and block seat accommodations on regularly scheduled commercial air service. This type of travel occurs domestically and internationally using the resources of United States and foreign flag airlines, commuter air carriers, and air taxis. The second method is via charter

airlift, both domestic and international. Charter airlift is provided by scheduled and other specialized air carriers. Last, some DoD passenger airlift is performed by organic military resources. The focus of the review of DoD passenger airlift policies and procedures is on movement via U.S. commercial air carriers, both in scheduled and chartered service.

While it is clear from the review of passenger airlift policies and procedures that the fundamental precepts, roles, and responsibilities are valid, there are a number of areas where more can be done to ensure the quality of the passenger airlift environment. Conflicting internal procedures, lack of adequate dialogue between and among DoD Components and agencies charged with the responsibility for aviation safety, and other systemic problems need to be corrected. More attention should be directed at the ability of FAA to carry out its statutory responsibilities for it is clear that current available resources are being overextended to accomplish industry oversight. The roles and responsibilities of the agencies and organizations charged with passenger aviation matters do not need change as much as they need emphasis, focus, and additional resources.

The study concluded that there are no fundamental differences regarding aviation safety, maintenance practices, and aircrew qualifications among and between civil air carriers and military organic airlift operations. While there are discernable differences in terminology and the individual practices among carriers, the notion that the civil carrier is more or less safe than the military counterpart was not found to be true. The study also found that, while DoD employs differing airlift procurement methodologies, these differences are not inconsistent with the domestic and international passenger airlift environments. The working group recommends that:

1. The Office of the Secretary of Defense (OSD) provide policy guidance which:

    a. Establishes standard guidelines for the suspension (and reinstatement) from all DoD passenger airlift of any carrier involved in a

fatal accident or cited by FAA for a major violation or serious incident pending a DoD Commercial Airlift Review Board. These guidelines will define the responsibilities of the Transportation Operating Agencies to recommend courses of action to the DoD Commercial Airlift Review Board and take other action as appropriate.

b. Establishes guidelines for the creation and operation of a DoD Commercial Airlift Review Board. Requires MAC and MTMC to modify their contracts/agreements to include these provisions [Action: ASD(A&L)].

2. OSD establish policy which requires all DoD-sanctioned group travel, both official and unofficial, be accomplished through use of air carriers authorized to perform similar service for MAC or MTMC unless specifically waived by the DoD Commercial Airlift Review Board. This policy shall include, but not be limited to, nonappropriated fund instrumentalities, foreign military sales cases, Military Service Academies, and transportation arranged by other than MAC and MTMC (e.g., Multinational Force and Observers, Army Corps of Engineers). Excluded from this policy are foreign flag travel, when it is the directed mode of travel, and individually procured discretionary travel, such as leave [Action: ASD(A&L)].

3. Both MAC and MTMC establish 12 months prior equivalent (international or domestic, as appropriate) commercial passenger service as a prerequisite to the airlift of DoD passengers unless exempted by the DoD Commercial Airlift Review Board [Action: ASA(I&L),[1] ASAF(RD&L)[2]].

4. MTMC also require, as a prerequisite to DoD charter or block seat service, a carrier demonstrate that at least 60 percent of its revenue comes from sources other than DoD (as is presently required by MAC) [Action: ASA(I&L)]. Further, this requirement for commercial revenue shall be subject to periodic review by the DoD Commercial Airlift Review Board [Action: ASD(A&L)].

5. OSD revise the MAC charter (DoD Directive 5160.2) to include responsibility for the conduct of airlift capability surveys for all U.S. airlines providing block seat, charter, and air taxi passenger airlift for DoD [Action: ASD(A&L)].

6. The MAC commercial airlift survey and inspection capability should be augmented by an appropriate number of FAA inspectors or comparable FAA trained and qualified personnel [Action: ASAF(RD&L)].

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[1]Assistant Secretary of the Army (Installations and Logistics).

[2]Assistant Secretary of the Air Force (Research, Development, and Logistics).

7. MAC and MTMC identify specific financial, performance, and safety indicators (e.g., accident rate, maintenance cost per operating hour, and other quality indicators). These indicators will serve as a basis for:

   a. Determining the eligibility of air carriers for the transport of DoD passengers

   b. Administering applicable contracts and agreements

   c. Evaluating the quality of performance so long as the carrier continues to operate for DoD.

   MAC and MTMC will continuously monitor and analyze these indicators and provide management information as required [Action: ASAF(RD&L), ASA(I&L)].

8. OSD establish a requirement for an at least biennial (every 2 years) onsite capability survey complemented by semiannual (every 6 months) performance evaluations (see the recommendation for Finding 7) [Action: ASD(A&L)].

9. MAC and MTMC develop, as a minimum, a standard customer evaluation form and evaluation procedure, that guidance for the use of this form be included in the Military Traffic Management Regulation, and that the Services emphasize its proper use. Use of such form would be mandatory for all Commercial Air Movements (CAMs) and Category B (channel and Special Assignment Airlift Mission) commercial passenger flights, with the results of these evaluations to be addressed in the periodic performance evaluation (see the recommendation for Finding 8) [Action: ASA(I&L), ASAF(RD&L)].

10. OSD assign MAC, in DoD Directive 5160.2, responsibility for ramp inspections on 25 percent of all CAMs and Category B (channel and Special Assignment Airlift Mission) commercial passenger missions operated. This should include a sample of flights transiting civil terminals, commercial gateways, and military airfields. The frequency of inspection shall be subject to periodic review by the DoD Commercial Airlift Review Board [Action: ASD(A&L)].

11. OSD task MAC and MTMC to establish a standard passenger cabin inflight checklist, survey each carrier at least once each year, and survey not less than 5 percent of all Category B (channel and Special Assignment Airlift Mission) and CAM commercial missions each year. The frequency of surveys shall be subject to periodic review by the DoD Commercial Airlift Review Board. This checklist should include provisions for evaluations of safety and unusual flight occurrences [Action: ASD(A&L)].

12. OSD reaffirm its basic reliance on FAA in matters of airline safety and work with DoT and FAA to ensure adequate surveillance of those air carriers providing airlift support to DoD. In furtherance of this objective, DoD should seek assurance from the Secretary of Transportation that progress will continue to be made in those areas identified for

improvement by DoD and DoT, including the air carrier certification process, standardization among FAA organizations, adequacy of adverse actions and penalties applied to air carriers, and availability of fiscal and manpower resources [Action: ASD(A&L)].

13. OSD energize and expand the relationship between DoD and FAA regarding airlift safety and establish firm requirements for the exchange of safety-related data. Within this context, DoD Directive 5030.19 should be revised accordingly and action should be taken to reestablish the FAA liaison position with MAC and establish a MAC liaison position with FAA. Further, that OSD request that FAA, in concert with MAC, establish internal guidance identifying the type and frequency of data to be provided to DoD and that FAA Order 8000.4E be revised accordingly [Action: ASD(A&L)].

14. That, although not specifically addressed in the study:

    a. The Military Departments and Defense Agencies should reinforce guidance precluding primary medical and dental records from accompanying DoD travelers.

    b. MAC should review guidance provided to commercial air carriers with regard to passenger, baggage, and impedimenta weights and ensure that confusion does not exist with regard to these important factors in aircraft weight and balance computations.

    c. The Military Departments and Defense Agencies should reinforce the guidance provided by the Military Traffic Management Regulation to assure that all DoD personnel and their families are afforded an opportunity to purchase commercial flight insurance prior to departure. This applies to all DoD-sponsored air travel inclusive of charter and block and individual seat travel.

    d. Consideration should be given by MAC and MTMC to increasing the seat spacing for DoD charter airlift, both domestic and international. The military traveler may not conform to the demographics of the general public and may, therefore, need more ample seat spacing. In addition to increased comfort, greater seat spacing affords an improved measure of safety during aircraft evacuation.

    e. MAC and MTMC should investigate the potential for improving the contracting process for charter flights with the objective of introducing a technical safety evaluation preceding cost proposals.

In conclusion, DoD is not a substitute for FAA. However, given the size and scope of DoD and the unique aspects of the DoD traveler, there is a burden of responsibility on DoD to ensure that safety and other pertinent factors are fully considered in each travel instance. Positive action and enactment of the preceding recommendations will enhance the safety, security, and well being of the DoD air traveler.

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FINDINGS AND RECOMMENDATIONS

FINDING 1

The study group found there was no standard Department of Defense (DoD) procedure for both the Military Airlift Command (MAC) and the Military Traffic Management Command (MTMC) to evaluate the continued use of a carrier following a major violation, incident, or fatal accident. In fact, current procedures could result in one Transportation Operating Agency suspending the carrier while the other continues using it.

Recommendation. That the Office of the Secretary of Defense (OSD) provide policy guidance which:

- *Establishes standard guidelines for the suspension (and reinstatement) from all DoD passenger airlift of any carrier involved in a fatal accident or cited by the Federal Aviation Administration (FAA) for a major violation or serious incident pending a DoD Commercial Airlift Review Board. These guidelines will define the responsibilities of the Transportation Operating Agencies to recommend courses of action to the DoD Commercial Airlift Review Board and take other action as appropriate.*

- *Establishes guidelines for the creation and operation of a DoD Commercial Airlift Review Board. Requires MAC and MTMC to modify their contracts/agreements to include these provisions [Action: ASD(A&L)[1]].*

FINDING 2

The study identified numerous circumstances under which DoD personnel could travel using air carriers not falling within the safety and quality of service standards established by FAA and DoD. These circumstances include use of foreign flag carriers, foreign military sales travel, nonappropriated fund instrumentality travel, and unofficial (discretionary leave or vacation) travel, as well as travel

[1]Assistant Secretary of Defense (Acquisition and Logistics).

arranged by other than MAC and MTMC (e.g., Multinational Force and Observers, Corps of Engineers).

> *Recommendation. That OSD establish policy which requires all DoD-sanctioned group travel, both official and unofficial, be accomplished through use of air carriers authorized to perform similar service for MAC or MTMC unless specifically waived by the DoD Commercial Airlift Review Board. This policy shall include, but not be limited to, nonappropriated fund instrumentalities, foreign military sales cases, Military Service Academies, and transportation arranged by other than MAC and MTMC (e.g., Multinational Force and Observers, Army Corps of Engineers). Excluded from this policy are foreign flag travel, when it is the directed mode of travel, and individually procured discretionary travel, such as leave [Action: ASD(A&L)].*

FINDING 3

Currently, MTMC requires that carriers demonstrate 6 months comparable commercial service prior to being eligible to transport DoD passengers. MAC has no similar requirement. The study group found that the performance of prior service is, next to FAA certification, the single most effective indicator of the ability of a carrier to safely and effectively transport DoD passengers.

> *Recommendation. That both MAC and MTMC establish 12 months prior equivalent (international or domestic, as appropriate) commercial passenger service as a prerequisite to the airlift of DoD passengers unless exempted by the DoD Commercial Airlift Review Board [Action: ASA(I&L),[2] ASAF(RD&L)[3]].*

FINDING 4

Similarly, MAC requires that a carrier demonstrate that at least 60 percent of its revenue comes from other than DoD business. This, too, is a prudent prerequisite indicative of the viability of the carrier.

> *Recommendation. That MTMC also require, as a prerequisite to DoD charter or block seat service, a carrier demonstrate that at least 60 percent of its revenue comes from sources other than*

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[2]Assistant Secretary of the Army (Installations and Logistics).

[3]Assistant Secretary of the Air Force (Research, Development, and Logistics).

DoD (as is presently required by MAC) [Action: ASA(I&L)]. Further, this requirement for commercial revenue shall be subject to periodic review by the DoD Commercial Airlift Review Board [Action: ASD(A&L)].

FINDING 5

Next to FAA certification and prior experience, the most important determinant of a carrier's ability to transport DoD passengers is the capability survey. The responsibility for such surveys was assigned to MAC by the Secretary of Defense in 1961, but is not currently reflected in the MAC charter.

Recommendation. That OSD revise the MAC charter (DoD Directive 5160.2) to include responsibility for the conduct of airlift capability surveys for all U.S. airlines providing block seat, charter, and air taxi passenger airlift for DoD [Action: ASD(A&L)].

FINDING 6

The airlift capability survey is fundamentally an assessment of a commercial airline employing civil crews, commercial aircraft, and commercial accounting standards. The study found the current survey process is not adequate. Currently, the MAC Airlift Capability Survey Team consists of highly trained military pilots and maintenance experts who are extremely knowledgeable of military operations, but who lack significant experience in commercial operations. In like manner, MAC employs the Defense Contract Administrative Service to provide a financial assessment. While skilled in overall financial assessments, these offices are not expert in airline operations.

Recommendation. The MAC commercial airlift survey and inspection capability should be augmented by an appropriate number of FAA inspectors or comparable FAA trained and qualified personnel [Action: ASAF(RD&L)].

FINDING 7

Currently, the capability survey does not include an assessment of specific, readily available financial, performance, and safety-related indicators, such as

accident rate, incident rate, maintenance expenditure, operating history, and operating cost per block hour of operation by aircraft type, etc. Such indicators should be used to create a baseline for comparison between the carrier being surveyed and the industry at large. Such baseline data should be maintained on a continuing basis.

> *Recommendation. That MAC and MTMC identify specific financial, performance, and safety indicators (e.g., accident rate, maintenance cost per operating hour, and other quality indicators). These indicators will serve as a basis for:*
>
> - *Determining the eligibility of air carriers for the transport of DoD passengers*
> - *Administering applicable contracts and agreements*
> - *Evaluating the quality of performance so long as the carrier continues to operate for DoD.*
>
> *MAC and MTMC will continuously monitor and analyze these indicators and provide management information as required [Action ASAF(RD&L), ASA(I&L)].*

FINDING 8

Prior to the crash at Gander, Newfoundland, the capability survey was performed at the time of initial request to do business and subsequently on an as-required basis. Subsequent to Gander, the Commander in Chief, Military Airlift Command, changed this to an annual requirement.

> *Recommendation. That OSD establish a requirement for an at least biennial (every 2 years) on-site capability survey complemented by semiannual (every 6 months) performance evaluations (see the recommendation for Finding 7) [Action: ASD(A&L)].*

FINDING 9

The study revealed widely disparate quality assurance procedures employed by MAC and MTMC. These are discussed at length in Chapter 3 of the report.

> *Recommendation. That MAC and MTMC develop, as a minimum, a standard customer evaluation form and evaluation procedure, that guidance for the use of this form be included in the Military Traffic Management Regulation, and that the Services emphasize its proper use. Use of such form would be mandatory*

for all Commercial Air Movements (CAMs) and Category B (channel and Special Assignment Airlift Mission) commercial passenger flights, with the results of these evaluations to be addressed in the periodic performance evaluation (see the recommendation for Finding 8) [Action: ASA(I&L), ASAF(RD&L)].

FINDING 10

Currently, MAC conducts ramp inspections for 50 percent of those flights transiting seven major MAC terminals. MAC estimates these results in the inspection of approximately 40 percent of MAC-sponsored flights. MTMC has no similar procedure. The study group believes the ramp inspection enhances the quality assurance process and makes the following recommendation.

Recommendation. That OSD assign MAC, in DoD Directive 5160.2, with responsibility for ramp inspections on 25 percent of all CAMs and Category B (channel and Special Assignment Airlift Mission) commercial passenger missions operated. This should include a sample of flights transiting civil terminals, commercial gateways, and military airfields. The frequency of inspection shall be subject to periodic review by the DoD Commercial Airlift Review Board [Action: ASD(A&L)].

FINDING 11

Similarly, both MAC and MTMC conduct inflight passenger cabin surveys to assess standards of service. Both MAC and MTMC employ unique checklists and establish separate survey frequencies.

Recommendation. That OSD task MAC and MTMC to establish a standard passenger cabin inflight checklist, survey each carrier at least once each year, and survey not less than 5 percent of all Category B (channel and Special Assignment Airlift Mission) and CAM commercial missions each year. The frequency of surveys shall be subject to periodic review by the DoD Commercial Airlift Review Board. This checklist should include provisions for evaluations of safety and unusual flight occurrences [Action: ASD(A&L)].

FINDING 12

In reviewing the legislative and policy history relevant to passenger airlift acquisition, it is clear that the current policies of DoD are in full conformance with the guidance provided by the Congress. However, in the weeks following the tragic

crash at Gander, there has been mounting public and Congressional pressure for DoD to accept an increased role in ensuring the safety of those civil aircraft transporting DoD personnel. Responsibility for safety of civil aviation operations clearly rests with FAA in accordance with the Federal Aviation Act of 1958. While the safety record of U.S. air carriers has been outstanding, there is a persistent need to ensure the highest safety standards. FAA has embarked on several major initiatives to enhance airline safety, most notably the National Air Transportation Inspection, the Safety Review Task Force, and Project SAFE. However, recent FAA requests to the Congress for significant increases in personnel suggests that the present resources available to FAA may not be sufficient given the growth of the civil airline industry following deregulation. While the final responsibility for the safety of all military personnel and their families unquestionably rests with DoD, a special relationship between FAA and DoD must be fostered to ensure this final responsibility can confidently be administered. In consonance with this, DoD support of FAA efforts to increase oversight of the civil air carrier industry is absolutely essential.

> *Recommendation. That OSD reaffirm its basic reliance on FAA in matters of airline safety and work with DoT and FAA to ensure adequate surveillance of those air carriers providing airlift support to DoD. In furtherance of this objective, DoD should seek assurance from the Secretary of Transportation that progress will continue to be made in those areas identified for improvement by DoD and DoT, including the air carrier certification process, standardization among FAA organizations, adequacy of adverse actions and penalties applied to air carriers, and availability of fiscal and manpower resources [Action: ASD(A&L)].*

FINDING 13

The study revealed the need for an improved relationship between DoD and FAA regarding airline safety. The flow of information between the two agencies is essentially restricted to MAC capability surveys and to notification of certificate

suspension and revocation. Within both agencies there is an absence of effective guidance on the nature and type of information to be exchanged.

> *Recommendation. That OSD energize and expand the relationship between DoD and FAA regarding airlift safety and establish firm requirements for the exchange of safety-related data. Within this context, DoD Directive 5030.19 should be revised accordingly and action should be taken to reestablish FAA liaison position at MAC and establish a MAC liaison with FAA. Further, that OSD request that FAA, in concert with MAC, establish internal guidance identifying the type and frequency of data to be provided to DoD and that FAA Order 8000.4E be revised accordingly [Action: ASD(A&L)].*

FINDING 14

While not specifically addressed by this study, the study group identified several aspects of passenger airlift which would benefit from additional emphasis from the Military Departments and Defense Agencies.

> *Recommendation. That:*
>
> - *The Military Departments and Defense Agencies should reinforce guidance precluding primary medical and dental records from accompanying DoD travelers.*
> - *MAC should review guidance provided to commercial air carriers with regard to passenger, baggage, and impedimenta weights and ensure that confusion does not exist with regard to these important factors in aircraft weight and balance computations.*
> - *The Military Departments and Defense Agencies should reinforce the guidance provided by the Military Traffic Management Regulation to assure that all DoD personnel and their families are afforded an opportunity to purchase commercial flight insurance prior to departure. This applies to all DoD-sponsored air travel inclusive of charter and block and individual seat travel.*
> - *Consideration should be given by MAC and MTMC to increasing the seat spacing for DoD charter airlift, both domestic and international. The military traveler may not conform to the demographics of the general public and may, therefore, need more ample seat spacing. In addition to increased comfort, greater seat spacing affords an improved measure of safety during aircraft evacuation.*

- *MAC and MTMC should investigate the potential for improving the contracting process for charter flights with the objective of introducing a technical safety evaluation preceding cost proposals.*

1. PURPOSE OF STUDY AND INTRODUCTION

The tragic crash of a charter DC-8 at Gander, Newfoundland, on December 12, 1985, which took the lives of 248 soldiers, focused the attention of the Department of Defense (DoD), the Congress, and indeed the nation on the passenger airlift utilized to move military personnel worldwide. Although this aircraft was not chartered by an entity of DoD, this national tragedy clearly mandated a thorough review of all aspects of DoD passenger airlift acquisition.

Hence, on December 20, 1985, Dr. James P. Wade, Jr., the Assistant Secretary of Defense (Acquisition and Logistics), established executive review and working groups comprised of representatives from each of the Military Services, the Military Airlift Command (MAC), the Military Traffic Management Command (MTMC), the Department of Transportation (DoT), and the Federal Aviation Administration (FAA). The memorandum establishing this review effort and the Terms of Reference for the study are included as Appendices A and B, respectively. The study examines passenger airlift provided to DoD personnel and their families and excludes tactical airlift associated with combat and combat training.

This report is intended to provide an assessment of the current passenger airlift system and, more importantly, to identify those actions which can be taken to further strengthen the DoD passenger airlift acquisition process.

As of the date of this report, the investigation of the Gander crash by Canadian authorities continues and the cause has yet to be determined. Any attempt to speculate or to draw conclusions regarding the effect that implementation of the recommendations contained herein might have had on the outcome of the ill-fated Arrow Air flight is to be avoided. While clearly providing the impetus for the study,

this effort addresses the overall passenger airlift acquisition process and is in no way specific to that tragedy.

2. PASSENGER AIRLIFT SYSTEM BACKGROUND AND ASSESSMENT

LEGISLATIVE AND POLICY HISTORY

In wartime, the Department of Defense (DoD) relies on the civil aviation industry to provide approximately 95 percent of the required passenger airlift and 25 percent of the required cargo airlift. In peacetime, the bulk of DoD personnel and their families move on commercial passenger aircraft. This reliance on the commercial passenger airlift system stems from longstanding Congressional and Administration policy guidance.

In the late 1940's, a series of DoD studies concluded that programs and policies must be developed for the rapid mobilization of civil aircraft to augment the military airlift system in time of national crisis. The Defense Production Act of 1950 provides "... that performance under contracts to national defense shall take priority." Executive Order 10219, February 1951, directed the Department of Commerce to formulate plans and programs for the assignment of aircraft from civil air carriers to DoD when required to meet the needs of the Armed Forces.

The Civil Reserve Air Fleet (CRAF) was established by a Memorandum of Understanding between DoD and the Department of Commerce in December 1951. The Memorandum of Understanding designated the Military Air Transport Service (MATS), now the Military Airlift Command (MAC), as the single Air Force agent for monitoring the overall implementation of the CRAF. A copy of the current Memorandum of Understanding on the CRAF between DoD and the Department of Transportation (DoT) is included as Appendix C.

In 1954, the Air Coordinating Committee prepared a report entitled "Civil Air Policy" for President Eisenhower. The report stated: "DoD should continue its

policy not to engage in competition with private industry, and to support the expansion of the nation's civil airlift capability on an economically sound basis."

The 1955 Hoover Commission Report stated:

> We do not have the resources to maintain within the Military Establishment in time of peace all the transport planes and personnel which would be needed in time of war. The commercial airlines with their bases, equipment, and personnel constitute an air transport reserve for war. They should be encouraged to expand. To that end commercial-type air traffic for the Military Establishment should be assigned to the commercial airlines wherever possible.... That the peacetime operations of the integrated Military Air Transport Service be restricted and realistically limited to persons and cargo carefully evaluated as to necessity for military air transportation and, only after commercial carriers have been utilized to the maximum possible extent, should transportation on Service carriers be authorized....

Also in 1955, the Comptroller General stated: "We believe it is important that the Congress direct the DoD to transfer, whenever possible, military mail, cargo and passengers to U.S. certificated air carriers."

A 1957 Report by the Interstate and Foreign Commerce Committee of the House of Representatives stated:

> It was suggested that consideration should be given to joint planning by the CAB [Civil Aeronautics Board] and the Department of Defense to: (1) make maximum use of the available capacity of the civil air carriers by the Department of Defense, and (2) plan the allocation of future Department of Defense traffic so as to encourage the civil air carriers to obtain additional aircraft which would be of great importance in case of a national emergency.

In 1957, a Senate Appropriations Committee Report reaffirmed that DoD should utilize the services of civil transportation to the fullest extent possible when, upon using the same cost standards for both commercial and Government facilities, it is found to be more economical.

In 1958, the House Government Operations Committee produced a lengthy and thorough report containing 22 recommendations (see Appendix D). The following recommendations are most significant:

> (1) MATS should concentrate on outsize and special-cargo traffic and technical missions, leaving to the civil air carriers the primary responsibility for the transportation of passengers and the more conventional kinds of military cargo, (2) the applicable military directives and regulations should be redrafted to eliminate the preferential position of MATS in peacetime military airlift and to establish, consistent with other recommendations in this report, a full partnership role for civil carriers in moving peacetime military traffic and in contributing to war readiness through the CRAF, and (3) in the event the applicable military directives and regulations are not redrafted to eliminate the preferential position of MATS, and an effective program is not developed for expanding the use of commercial air services, the Congress should adopt appropriate legislation to achieve these objectives.

In February 1960, President Eisenhower approved a DoD study entitled "The Role of Military Air Transport Service in Peace and War." Included in this document are nine "Presidentially Approved Courses of Action" which provide fundamental national airlift policy. Pertinent extracts of this document are included in Appendix E. This study continues to serve as the basis for the current DoD and civil airlift industry relationship. The "Courses of Action" require that:

1. The MATS be equipped and operated in peacetime to ensure its capability to meet approved military hard-core requirements in a general war and in situations short of general war, and such other military requirements as cannot be met adequately by commercial carriers on an effective and timely basis

2. Modernization of MATS hard-core military airlift capability be undertaken

3. The MATS routine channel traffic operation be reduced on an orderly basis consistent with assured commercial airlift capability at reasonable cost and with economical and efficient use, including realistic training, of the MATS capacity resulting from (1) and (2) above

4. As commercial carriers make available modern, economical, long-range cargo aircraft, increased use be made of the services of such commercial carriers

5. Commercial augmentation airlift procurement policies and practices be better adapted to long-range DoD requirements to encourage and assist in sound economic growth, development, and maintenance of an increased air cargo capability

6. The role of the CRAF be reexamined with the objective of ensuring optimum effectiveness and responsiveness of commercial airlift services to DoD under all conditions.

In 1961, the Secretary of Defense issued a policy memorandum concerning domestic commercial passenger airlift. The memorandum required that (1) the MATS conduct capability surveys of supplemental air carriers to assure maximum safety and reliability; (2) the Military Traffic Management Agency, now called the Military Traffic Management Command (MTMC), spot check between surveys to the extent deemed necessary; and (3) appropriate coordination be effected between the MATS and the Military Traffic Management Agency to assure that standards of safety and service are met and that equal opportunity is afforded all supplemental carriers to participate in DoD contract operations (see Appendix F).

In June 1963, the Committee on Government Operations of the House of Representatives submitted its report on "Military Air Transportation." This report was the result of more than 5 years of close and continuing studies of the MATS. The report directed that (1) the MATS should continue to emphasize its hard-core role and to plan for continued substantial participation by civil carriers in military airlift business within its purview; (2) consideration should be given to expanding the civil carriers' share of the MATS channel cargo traffic; (3) the MATS should conduct itself as a military transport arm and not as a civil airline; and (4) the MATS should concentrate on outsize and special cargo traffic, leaving to the civil air carriers the primary responsibility for the transportation of passengers and more conventional cargo.

Enactment of the International Air Transportation Competitive Practices Act in 1974 required use of U.S. commercial air carriers for transportation of official passengers/cargo between the United States and any place outside the United States. The Act was apparently meant primarily to require use of U.S. carriers (as opposed to using foreign carriers); however, by its terms, it dictates use of U.S. commercial aircraft as opposed to military aircraft. In a May 23, 1975 letter to Secretary of Defense Schlesinger, Senator Cannon advised that the Act was meant to require use of civilian carriers rather than MAC military aircraft.

Assistant Secretary of Defense for Installations and Logistics Shrontz wrote in a 1976 memorandum to the Military Services:

> ...routine utilization of military aircraft to move normal PCS/TDY [Permanent Change of Station/Temporary Duty] passengers contravenes the intent of Congress and the national transportation policy objectives and is not in the best interest of the Department of Defense.... During the development and acquisition of the modern MAC C-5/C-141 fleet, Congress repeatedly expressed their clear intent that these aircraft, when placed in service, would not be used for scheduled passenger service. In fact, both the FY [fiscal year] 1961 and FY 1962 DoD Appropriation Acts authorizing funds for the development of these aircraft included the provision that "...no part of the funds provided in the paragraph shall be available for the procurement of aircraft for assignment to scheduled passenger service."...In addition, both the Interstate Commerce Act and the Federal Aviation Act indicate that the national transportation policy of the Federal government is to encourage the development and promotion of a sound transportation system in support of the commerce, defense and postal system requirements of this nation without unjust discriminations, undue preferences or advantage, or unfair or destructive competitive practices. In our view utilization of MAC cargo aircraft to provide routine, scheduled passenger service in lieu of utilizing CRAF committed commercial air carriers could be considered unfair competition with commercial enterprise. In consonance with the above, this is to state that it is the policy of the Department of Defense to utilize CRAF committed commercial passenger aircraft for the routine movement of passengers. MAC military aircraft are not to be used for such passenger movements except in unique situations such as low frequency channels where split configured aircraft are required and commercial service is not cost effective or is otherwise undesirable. In each such

> instance the concurrence of the customer Military Services will be obtained and this office advised.

A 1976 transmittal memorandum to the Heads of Executive Departments and Establishments regarding "*Policies for Acquiring Commercial or Industrial Products and Services Needed by the Government*" [Office of Management and Budget (OMB) Circular A-76] stated:

> The Government's business is not to be in business where private sources are available; they should be looked first to provide the commercial or industrial goods and services needed by the Government to act on the public's behalf.... In a democratic free enterprise economic system, the Government should not compete with its citizens. The private enterprise system, characterized by individual freedom and initiative, is the primary source of national economic strength. In recognition of this principle, it has been and continues to be the general policy of the Government to rely on competitive private enterprise to supply the products and services it needs.

OMB Circular A-126, "Improving the Management and Use of Government Aircraft," October 5, 1983, which applies to all Government-owned, leased, chartered, and rental aircraft configured to carry passengers within the continental United States (CONUS) stated:

> Government aircraft shall be used only when such use is more economical than commercial aircraft or airline services in carrying out the government's mission, or when commercial service is not available to effectively meet the agency's transportation need.

Analysis

There is more than a 30-year history of clear and consistent guidance from the Congress and the Executive Branch to maximize the use of available passenger airlift existing in the civil sector for the movement of DoD personnel. DoD has drafted a new airlift policy statement which would supplant the "Presidential Courses of Action." The thrust of this policy, in part, reinforces the use of U.S. air carriers to meet the bulk of passenger airlift requirements. The proposed policy statement was extensively coordinated throughout the Administration.

DoD has taken action to implement this policy guidance by structuring airlift acquisition programs and procedures having due regard for private sector resource availability. As will be demonstrated later in this report, use of commercial carriage is the dominant mode for passenger airlift in both peace and war.

INTERGOVERNMENTAL RELATIONSHIPS

Within the Federal Government, overall responsibility for traffic management and the acquisition of transportation is vested in the General Services Administration in accordance with the Federal Property and Administrative Services Act of 1949 [40 U.S. Code 481(a)]. DoD is, however, exempt from the provisions of this act. Within DoD, the Assistant Secretary of Defense (Acquisition and Logistics) is the focal point for responsibilities regarding transportation and traffic management (see DoD Directive 5126.9, included as Appendix G).

With regard to passenger airlift, the Secretary of Defense has assigned mission responsibility for airlift matters to:

- The Secretary of the Air Force and the Military Airlift Command (MAC). The Secretary of the Air Force acts as the Single Manager for Airlift Service with MAC acting as the airlift transportation operating agency. The full charter for this mission responsibility is contained in DoD Directive 5160.2, a copy of which is included as Appendix H. With regard to passenger airlift, MAC is tasked to:

  > Procure by contract or otherwise all commercial contract airlift service between CONUS and oversea areas, including both (a) charter service and (b) service on scheduled commercial flights where advance space blocking is necessary. Also, negotiate with scheduled air carriers, as appropriate, the terms, conditions and rates for service on scheduled commercial flights without space blocking; however, such space on specific flights shall be procured by the DoD user components, except as otherwise agreed between a component and the Agency.

  MAC also has responsibility for all charter airlift missions within the CONUS of more than 90 days duration. Additionally, to ensure the reliability of airlift carriers, MAC is charged with responsibility for conducting a capability survey of all certificated commercial operators who desire to provide chartered airlift services to elements of DoD. This mission, while not reflected in MAC's charter, is contained in a 1961 memorandum from the Secretary of Defense, a copy of which is included as Appendix F.

- The Secretary of the Army and the Military Traffic Management Command. The Secretary of the Army is designated as the Single Manager for Military Traffic, Land Transportation, and Common User Ocean Terminals with MTMC assigned as the Transportation Operating Agency for these functions. The full mission responsibilities are contained in DoD Directive 5160.53, a copy of which is included as Appendix I. With regard to passenger airlift, MTMC is charged with responsibility to arrange and manage the flow of passenger groups and units from origin to destination within the CONUS; for all charter airlift missions within the CONUS of less than 90 days duration; and to provide traffic management support and guidelines for individual passenger movements. Specific airlift procurement responsibilities of MTMC are included as Appendix J.

Under Public Law 85-726 (Federal Aviation Act of 1958), the basic responsibility for ensuring the safety of commercial flight operations by U.S. air carriers rests with the Federal Aviation Administration (FAA). The relationship between DoD and FAA is currently established in two documents:

- DoD Directive 5030.19, "DoD Responsibilities on Federal Aviation Matters" (copy included as Appendix K). This Directive designates the Assistant Secretary of the Air Force (Installations and Logistics) as the principal, and the Deputy Assistant Secretary of Defense (Logistics and Materiel Management) as the alternate, DoD representatives to FAA and the Interagency Group on International Aviation. These individuals are charged with responsibility for:

  - Developing specific cooperative aviation agreements with FAA

  - Coordinating, within DoD, matters of interest on aviation activities of FAA and Interagency Group on International Aviation.

  Although the Directive is broad regarding the scope of responsibilities, the actual working relationships that have evolved focus principally on air traffic control, joint use airfields, and air space issues and have not addressed involvement of FAA in the DoD acquisition of passenger airlift.

- FAA Order 8000.4E, "Coordination with Military Airlift Command" (included as Appendix L). This FAA order establishes the support to be provided to MAC when conducting MAC capability surveys. It further provides that "... the district office having certificate responsibility will notify the Contract Airlift Survey Office whenever a potential problem area is discovered, particularly involving safety."

A matrix portraying specific passenger air service oversight responsibilities is included as Appendix M.

Analysis

The relationship between DoD and FAA has been described as it is envisioned in applicable statutes and regulations. The study group, in assessing this relationship, was confronted by essentially two questions: How effective is FAA in ensuring airline safety and how effective is the FAA/DoD exchange of information regarding safety and other pertinent topics?

In attempting to determine the effectiveness of FAA, the study group turned to the FAA "Annual Report on the Effect of Airline Deregulation on the Level of Air Safety," 7 February 1986, and the October 1985 hearing conducted by the Subcommittee on Aviation of the Senate Committee on Commerce, Science, and Transportation.

As shown in Table 2-1, the number of FAA air carrier inspectors declined about 24 percent (from 674 to 508) during the period FY81 to FY84. During this same period, the number of aircraft hours flown (Table 2-2) increased approximately 24 percent for scheduled service and 70 percent for nonscheduled service. While this would suggest a lesser degree of industry oversight by FAA, neither the National Transportation Safety Board (NTSB) accident statistics (Table 2-3) nor FAA enforcement statistics (Table 2-4) suggest such a decline. These statistics notwithstanding, it is evident that FAA feels there is room for improvement:

- FAA has announced its intent to increase in FY86 the number of air carrier inspectors to 770, a 50-percent increase over 1984 levels.
- The 1986 FAA National Evaluation Plan places top priority on indepth inspection of Part 121 air carriers who derive a significant amount of revenue from contract military charter flights (MAC has been invited to accompany FAA on these inspections).
- FAA has specified conditions under which DoD (MAC) will have access to the flight deck to view military charter operations.

In recent testimony before the Subcommittee on Aviation of the Senate Committee on Commerce, Science, and Transportation, Mr. H. R. McLure, Associate

TABLE 2-1. FAA AIR CARRIER INSPECTORS

CALENDAR YEAR	NUMBER OF INSPECTORS	
78	605	
79	645	
80	640	
81	674	
82	576	- 25%
83	569	
84	508	
85	674	+ 51%
86	770[a]	

[a]Goal.

TABLE 2-2. AIRCRAFT HOURS FLOWN

(Part 121 Carriers)

CALENDAR YEAR	SCHEDULED (millions)		NONSCHEDULED (millions)	
78	6.0		0.20	
79	6.7		0.17	
80	6.8		0.29	
81	6.6	+ 25%	0.24	+ 70%
82	6.4		0.28	
83	6.6		0.29	
84	7.5		0.34	

TABLE 2-3. ACCIDENTS AND FATALITIES
(Part 121 Carriers)

CY[1]	SCHEDULED SERVICE				NONSCHEDULED SERVICE			
	Accidents		Fatalities		Accidents		Fatalities	
	No.	Rate[2]	No.	Rate[2]	No.	Rate[2]	No.	Rate[2]
78	21	0.348	160	2.65	2	0.99	0	0
79	24	0.358	351	5.24	6	3.62	3	1.81
80	15	0.221	0	0	4	1.48	1	0.37
81	25	0.380	4	0.06	1	0.42	0	0
82	15	0.233	233	3.62	5	1.91	1	0.38
83	21	0.316	15	0.23	5	1.78	3	1.07
84	13	0.177	4	0.05	3	0.94	0	0

[1]Calendar Year.
[2]Per 100,000 aircraft flight hours.

TABLE 2-4. FAA ENFORCEMENT STATISTICS

CALENDAR YEAR	PART 121		PART 135	
	Number of Enforcement Cases	Rate[1]	Number of Enforcement Cases	Rate[1]
80	1128	15.96	364	30.96
81	1969	28.91	403	32.48
82	1551	23.14	347	26.69
83	1712	24.70	305	20 82
84	1904	24.77	573	36.14

[1]Per 100,000 aircraft flight hours.

NOTE: An enforcement case represents an action taken by the FAA as the result of one or more violations; i.e., an operator has failed to comply with one or more requirements of the air safety regulations.

Director of the General Accounting Office (GAO) Resources, Community and Economic Development Division, provided the following testimony in reference to FAA inspection procedures:

> At the request of two House Subcommittee Chairmen, we compiled and analyzed data on the type, frequency, and results of FY84 inspections covering air carrier personnel, aircraft, and maintenance and other facilities for a sample of 92 of the nation's approximately 500 scheduled commercial air carriers.[1] We reviewed about 12,000 reports of avionics (aircraft electronics), operations, and maintenance inspections.
>
> Comparison of Operating Hours and FAA Inspections
>
> To compare FAA's inspections, we grouped the air carriers according to their FY84 operating hours. We found that:
>
> - Some air carriers with a similar number of operating hours had significant differences in the total number of FAA inspections.
> - Some air carriers with similar numbers of FAA inspections had large differences in total operating hours.
>
> For example, an airline with about 41,000 operating hours had 571 FAA inspections whereas another airline with about a thousand more operating hours had only about one-third that number inspections. Conversely, an airline with about 90,000 hours received 274 inspections, whereas another airline with about 56 percent more hours received the same number of inspections.
>
> Some Air Carriers Had No Avionics or Operations Inspections
>
> Our review also showed that 29 air carriers (about 32 percent of our sample) had no FAA avionics inspections during FY84. Four air carriers did not receive any FAA operations inspections. Two of the air carriers received neither an avionics nor an operations inspection. Twenty-five of the air carriers (86 percent) that did not receive avionics or operations inspections had their operating certificates in FAA's Alaska or Southern regions and almost all were small air carriers.

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[1] Compilation and Analysis of the Federal Aviation Administration's Inspection of a Sample of Commercial Air Carriers (GAO/RCED-85-157, August 2, 1985).

Variances Among FAA Regions

Our review found that FAA regions varied in the proportion of operations, maintenance, and avionics inspections they performed, and in the percentage of inspections that resulted in unsatisfactory ratings for the carrier. For example, we found that in 4 of the 5 regions we visited, about 87 to 92 percent of total inspections were operations and maintenance inspections while the remaining 8 to 13 percent were avionics inspections. In the other region, we found a relatively even distribution among operations, maintenance, and avionics inspections.

Similarly, we found variances in the results of FAA's inspections of air carriers among the five regions reviewed. Unsatisfactory operations inspections ranged from 3 to 11 percent, unsatisfactory maintenance inspections varied from less than 1 percent to 24 percent, and unsatisfactory avionics inspections ranged from 1 to 9 percent.

FAA's Response to GAO's Report

FAA has stated that they found our report to be very beneficial in that it gave them an independent and different perspective. FAA also indicated that there are valid reasons for some of the variances we found among the carriers in our sample. According to FAA, comparing FAA inspections with fleet operating hours, alone, should not be used to assess FAA surveillance performance. FAA believes other factors, including fleet size, aircraft type, age of the carrier, expansion rate, and history of regulatory compliance, should also be considered. Nevertheless, FAA said it has begun to improve the inspection program by correcting staffing deficiencies and implementing guidelines which specify minimum numbers of inspections. According to FAA, these and other implemented or proposed changes will restructure and revitalize their inspection program.

GAO continues to work in this area and anticipates submitting a formal report this spring.

In reviewing the relationship between FAA and DoD, it became readily evident that, regarding passenger airlift safety, the exchange of data is presently inadequate and fails to provide MTMC or MAC with the level of information required to qualitatively assess the performance and merit of potential DoD passenger carriers. Currently, the FAA supports MAC capability surveys, but, short

of certificate suspension or revocation, FAA provides MAC with little or no information relative to violations, enforcement actions, incidents, or accidents. Such information constitutes an invaluable indication of the need for increased surveillance. It should be noted that FAA terminated its full-time liaison office at Headquarters, MAC, in 1982.

TOTAL DoD COMMERCIAL PASSENGER AIRLIFT PROCUREMENT

The aggregate DoD passenger airlift system is the largest single user of commercial airlift in the world. The procurement system, composed of MAC, MTMC, and individual Installation Transportation Officers/Traffic Management Officers (ITOs/TMOs), bought $1.15 billion of airlift services in FY85. Table 2-5 depicts number of passengers, passenger miles traveled, and the cost to DoD for buying this airlift service from FY83 through FY85.

While DoD is the largest single customer of the airline industry when taken as a percentage of total airline revenue, DoD comprises approximately 3 percent of annual U.S. airline business, as shown in Table 2-6.

In addition to the commercial airlift DoD procures, military organic airlift is used to move over 200,000 passengers annually. Table 2-7 compares the number of DoD passengers and passenger miles from FY83 through FY85 moved in commercial versus military airlift service. Military lift is clearly supplemental in nature.

WARTIME CAPABILITY REQUIREMENTS

The Defense Guidance serves as the authoritative statement of DoD policy, strategy, force and resource planning, and fiscal guidance for program development within DoD. The FY88 through FY92 Defense Guidance recommends a midterm intertheater airlift capability goal of 51 to 54 million ton miles per day (MTM/D), with a long-term goal of 66 MTM/D. The projected FY88 capability will be 17.5 MTM/D short of the long-term goal of 66 MTM/D.

TABLE 2-5. TOTAL DoD COMMERCIAL AIRLIFT PROCUREMENT

(FY83 – FY85)

FY	TYPE TRAVEL	FULL PLANE CHARTER SERVICE[1]			SCHEDULED AIRLINE SERVICE[2,3]			TOTAL CHARTER AND SCHEDULED SERVICE		
		Passengers	Passenger Miles (000)	Cost ($000)	Passengers	Passenger Miles (000)	Cost ($000)	Passengers	Passenger Miles (000)	Cost ($000)
83	DOMESTIC	146,200	198,500	26,400	2,769,000	2,693,100	438,600	2,915,200	2,891,600	465,000
	INTERNATIONAL	565,600	2,865,900	233,200	581,200	2,243,700	212,400	1,146,800	5,109,600	445,600
	TOTAL	711,800	3,064,400	259,600	3,350,200	4,936,800	651,000	4,062,000	8,001,200	910,600
84	DOMESTIC	183,900	243,100	33,300	3,433,000	3,365,200	558,900	3,616,900	3,608,300	592,200
	INTERNATIONAL	574,100	2,883,200	228,600	770,400	2,825,600	273,600	1,344,500	5,708,800	502,200
	TOTAL	758,000	3,126,300	261,900	4,203,400	6,190,800	832,500	4,961,400	9,317,100	1,094,400
85	DOMESTIC	177,700	232,600	31,700	3,813,000	3,686,600	607,300	3,990,700	3,919,200	639,000
	INTERNATIONAL	569,000	3,053,900	246,900	768,000	2,798,700	266,900	1,337,000	5,852,600	513,800
	TOTAL	746,700	3,286,500	278,600	4,581,000	6,485,300	874,200	5,327,700	9,771,800	1,152,800

[1]Domestic charter includes MTMC-arranged commercial air missions in CONUS. International charter data includes MAC channel traffic only; exercise and Special Assignment Airlift Mission traffic are not included.

[2]Domestic Scheduled Service includes group travel procured by MTMC; individual travel arranged by ITO/TMO with a Government Transportation Request.

[3]International Scheduled Service includes MAC-procured Categories A and Y, and individual travel procured by ITO/TMO with a Government Transportation Request.

TABLE 2-6. DoD AIR TRAFFIC AS A PERCENTAGE OF TOTAL AIRLINE REVENUE

(FY83 – FY85)

FY	TOTAL AIRLINE REVENUE ($)	DoD TRAFFIC ($)	DoD PERCENT OF TOTAL
83	33,261,336,000	910,776,000	2.74
84	37,707,036,000	1,094,400,000	2.90
85	39,006,582,000	1,152,800,000	2.95

TABLE 2-7. DoD COMMERCIAL/MILITARY PASSENGER AND PASSENGER AIRLIFT MILES COMPARISON

(FY83 – FY85)

FY	DoD PASSENGERS		DoD PASSENGER MILES	
	Commercial Airlift	Military Airlift	Commercial Airlift (000)	Military Airlift (000)
83	4,062,000	243,018	8,001,200	489,700
84	4,961,400	235,527	9,317,100	416,000
85	5,327,700	221,035	9,771,800	370,000

These mid- and long-term objectives do not include requirements for movement of personnel and units within the CONUS at the time of mobilization. Large numbers of individuals and units will be moving to, from, and between training bases (160,000 in first 30 days) as well as an estimated 1 million new recruits moving from processing stations to training sites.

The DoD airlift capability to meet wartime commitments consists of a combination of military aircraft assigned to the active and reserve forces and commercial aircraft owned and operated by the civil air carriers who commit these aircraft to the CRAF program or become a part of the remaining civil fleet assigned to the War Air Service Program (WASP). These assets and their supporting worldwide terminal, en route maintenance, and command and control systems make up the total airlift system. They are under continual review for upgrading required to meet projected wartime airlift requirements of all of the Military Services.

All of the components of the airlift system must be exercised during peacetime to maintain a state of readiness geared to meeting wartime requirements. Thus, a

peacetime flying hour program exists to provide minimum essential training for military aircrews. When flown over worldwide routes, the flying hour program also provides readiness training for supporting functions and systems. MAC's peacetime route structure is determined by traffic and frequency of service requirements of the Military Services to support their forces stationed throughout the world. Since the peacetime deployment of forces is consistent with the national defense objective, MAC routes supporting them represent many of those which MAC will operate during wartime. This route structure provides an important training opportunity for MAC en route forces and systems required to support existing war plans. The CRAF participants, however, receive the majority of their readiness training in connection with their own commercial passenger and cargo business. In addition, the CRAF participation in the DoD airlift system ensures that both the CRAF and MAC personnel are familiar with differences in equipment and procedures associated with handling commercial aircraft in a military environment. These minimum peacetime readiness programs generate a valuable "by-product" airlift capacity which can serve the additional purpose of satisfying some of the logistics transportation requirements of all the Military Services.

Additionally, as a matter of national defense policy, peacetime domestic requirements are moved within existing commercial transportation systems in order to assure availability of transportation assets and trained operators during wartime or other crises. The airline systems used during peacetime become part of the CRAF or the WASP system during wartime.

Nearly all DoD domestic and international passenger airlift requirements are satisfied by commercial CRAF and WASP carriers, consistent with wartime employment plans. DoD cargo airlift requirements exceeding the by-product capacity of the MAC peacetime flying hour program are also awarded to the CRAF carriers. DoD relies heavily on the commercial airlift infrastructure for movement of DoD

personnel and cargo, not only during wartime but also during peacetime, in that DoD does not possess the passenger type aircraft required to transport DoD personnel to and from overseas areas. To equip DoD with the passenger configured aircraft needed would result in considerable cost to DoD. Chapter 3 includes a discussion of the cost of substituting DoD-owned and operated aircraft for comparable charter airlift currently provided. (Also see Appendix N.)

PEACETIME ORGANIC AIRLIFT PROGRAMS

Readiness Training Program

DoD's peacetime airlift training activities must be geared to maintaining the readiness posture of the total worldwide airlift system. This includes aircrews, terminal and en route maintenance support, supply channels, the intelligence network, and command and control systems while simultaneously supporting the training and readiness needs of DoD Components. The minimum flying hour program for military aircrew training and the peacetime level of CRAF cargo airlift procurement provide sufficient activity to fully exercise all of the other components of the airlift system so as to maintain their wartime proficiency.

Military Flying Hour Program

MAC's strategic and tactical flying hour programs are developed to provide currentness and upgrade training for aircrew personnel. The size of the program for each type of aircraft is determined by taking into account a large number of variables. A detailed discussion of the development of the flying hour programs for C-5, C-130, and C-141 aircraft, which generate capability for DoD common-user airlift, is included as Appendix O. The projected flying hour programs are shown in Table 2-8.

After satisfying unique military training and mission requirements – including local area test/training/ferry, overseas rotation of aircraft, Joint Airborne Air Transportable Training, Joint Chiefs of Staff exercises, and Special Assignment

TABLE 2-8. MILITARY FLYING HOUR PROGRAM

AIRCRAFT TYPE	FY86	FY87	FY88	FY89	FY90	FY91
C-5[a]	50,754	47,539	44,771	45,702	46,240	46,240
C-130	155,016	134,423	134,177	133,558	133,558	133,558
C-141[a]	275,077	263,200	256,423	256,462	256,386	253,933

[a]Includes Reserve Associate Program. Does not include assets transferred to Air Reserve Forces.

Airlift Missions (SAAM)—the residual flying hours are available for providing airlift to DoD agencies on a common-user basis. During FY85 the MAC flying hour program consisted of 494,968 hours, of which 176,981 hours were employed on a common-user basis. Cargo movement accounted for 89 percent of those common-user hours.

Airlift Acquisition Program

Shortfalls in mobility resources have long been recognized by DoD and the Congress. A number of studies and analyses have been completed to quantify mobility and airlift shortfalls. With respect to airlift, the benchmark analysis was the Congressionally Mandated Mobility Study (CMMS) of 1981. Viewing four separate deployment scenarios, the CMMS concluded that the sum of military and CRAF cargo airlift was insufficient to meet any of the deployment and sustainment scenario requirements. Results of the CMMS led DoD to establish a goal of 66 MTM/D of intertheater cargo airlift, with half of that airlift being outsize capable. In 1982 DoD, supported by the Congress, initiated a program to redress the cargo airlift shortfall. The program consisted of procurement of 50 C-5B and 44 KC-10 aircraft along with continued research and engineering for the C-17. This followed an airlift enhancement program, developed in the late 1970's, to improve the capabilities of

the existing C-5A and C-141 fleets. As discussed later in this chapter, the CRAF Enhancement Program was rejuvenated in 1983 and resulted in a contract between the U.S. Air Force and Pan American World Airways (Pan Am).

Following delivery of the programmed C-5B and KC-10 aircraft and completion of the ongoing CRAF Enhancement Program, the aggregate intertheater cargo lift capability is scheduled to reach 48.5 MTM/D in FY88. To reach the 66 MTM/D plateau, the Air Force Airlift Master Plan recommends acquisition of 210 C-17 aircraft. The Master Plan projects that this objective will be attained in FY89. Table 2-9 reflects the FY88 and FY98 proposed cargo airlift force structure.

TABLE 2-9. INTERTHEATER CARGO AIRLIFT MILLION TON MILES/DAY

AIRCRAFT TYPE	FY88	FY98
C-5A	11.0	11.0
C-5B	7.5	7.5
C-141	14.2	4.4
KC-10	4.5	4.5
CRAF Wide and Narrow Body	8.4	8.4
CRAF Enhancement	2.9	2.9
C-17	—	27.3
TOTAL	48.5	66.0

The availability of commercial passenger airlift to satisfy current DoD troop deployment needs allows DoD to focus procurement efforts on the cargo airlift shortfall. Therefore, absent from this procurement strategy is the need to acquire intertheater passenger airlift. It is important to consider that the excess passenger airlift capability in the civil sector provides the resource base for the CRAF Enhancement Program, which, in turn, reduces the cargo airlift shortfall.

Cargo aircraft procured by DoD have the capability to transport passengers and are used routinely in intratheater airlift passenger and mixed configurations. DoD cargo aircraft provide most of the "space available" transportation opportunities for active duty and retired uniformed services personnel and their families. However, in both peace and war, the passenger airlift resources of the civil sector provide the prime method for troop transport. Most DoD military airlift aircraft were designed for the movement of vehicles and other cargo and do not provide service and amenity levels comparable to those provided by civil air carriers.

COMMERCIAL AUGMENTATION PROGRAMS

Executive Order 10219, February 1951 (amended by Executive Order 11921, June 1976) assigns emergency preparedness functions to Federal Departments and Agencies. Two major programs have evolved from the Executive Order: the CRAF and the WASP. The CRAF is defined specifically as "... those air carrier aircraft allocated by the Secretary of Transportation to the Department of Defense to meet essential military needs in the event of an emergency." The WASP is

> ...the program designed to provide for the maintenance of essential civil air routes and services, and to provide for the distribution and redistribution of air carrier aircraft among civil air transport carriers after withdrawal of aircraft allocated to the Civil Reserve Air Fleet.

The simplest differentiation between these two programs is that the CRAF is generally focused on international airlift requirements, while the WASP, or those assets remaining after the CRAF has been deployed, is largely for domestic purposes. Within DoD, the CRAF Program is administered by MAC while the WASP is administered by MTMC.

Civil Reserve Air Fleet (CRAF) Program

As indicated earlier in this chapter, the need for use of civil air carrier aircraft to meet the airlift requirements of the Armed Forces was recognized in the

early 1950's. Executive Order 10219 (February 1951) resulted in a Memorandum of Understanding between the Department of Commerce and DoD which established the plan for use of civil air carrier aircraft when needed to support DoD airlift requirements in an airlift or national emergency. This plan is known as the CRAF program. The CRAF consists of U.S.-registered aircraft owned or controlled by U.S. air carriers and committed by contract to DoD under stated conditions to meet varying emergency needs for civil augmentation of military airlift capability. The contractual commitment of these aircraft includes the supporting resources required to provide the airlift services. Of DoD peacetime airlift requirements, CRAF carriers are moving approximately 95 percent of the passenger requirements and 15 percent of the cargo requirements.

CRAF aircraft are committed in three ascending levels of emergencies. These are:

- Stage I – Aircraft are available within 24 hours. Capability committed: 34 passenger aircraft, 18.9 million passenger miles per day (MPM/D); 33 cargo aircraft, 4.4 MTM/D.
- Stage II – Aircraft are available within 24 hours. Capability committed: 89 passenger aircraft, 47.6 MPM/D; 76 cargo aircraft, 6.9 MTM/D.
- Stage III – Aircraft are available within 48 hours. Capability committed: 245 passenger aircraft, 142.4 MPM/D; 121 cargo aircraft, 11.64 MTM/D.

CRAF Enhancement Program

DoD and the Congress have long recognized the shortage of organic and CRAF cargo airlift capability to meet military deployment requirements. Measured against the current Defense Guidance, that requirement is to achieve 66 MTM/D of cargo airlift. Following procurement of the C-5A and C-141, the DoD embarked upon an airlift enhancement program to improve the nation's mobility capability. This program included stretching and adding inflight refueling capability to the

C-141, replacing much of the wing assembly on the C-5A, and a concept to modify wide-body commercial passenger aircraft to accommodate quick convertibility to a cargo configuration. This aspect of the overall airlift enhancement program is called the CRAF Enhancement Program.

As a major effort to capitalize on the capabilities of the U.S. commercial aviation industry, DoD is altering commercial passenger aircraft, which are in excess of DoD's wartime troop lift requirements, to provide a cargo configuration (called cargo convertibility) to reduce the nation's cargo airlift shortfall. CRAF enhancement aircraft are provided with a large cargo door, reinforced flooring, and cargo restraint systems to facilitate the movement of military bulk and oversize cargo. In the case of new production aircraft, DoD pays the additional manufacturing costs associated with incorporating cargo features during aircraft construction; for existing aircraft, DoD pays the modification costs to achieve cargo convertibility. DoD also pays the owning/operating airline, throughout the life of the contract, for costs incurred as a result of operating a heavier aircraft. Under this program, the modified CRAF enhancement aircraft are used by the airlines in passenger service. Enabling legislation also allows DoD to pay for a portion of construction or modification of convertible passenger aircraft used predominantly in commercial air cargo operations. In this case, DoD does not pay for the weight penalty associated with convertibility.

From the time CRAF enhancement was conceived, the Program has seen a number of changes. Initially, the focus was on modifying existing commercial passenger aircraft. In the late 1970's, program emphasis shifted to providing convertible features on commercial passenger aircraft during manufacture. As the prospect for wide-body passenger aircraft acquisition dimmed in the early 1980's, efforts returned to modifying existing assets. A successful program depends on three willing partners: DoD and the U.S. Air Force, the commercial airlines and aircraft

manufacturers, and the Congress. It was not until 1982 that this coalition produced a demonstrable result: delivery of a DC-10-10 to United Air Lines constructed with CRAF enhancement features.

The next milestone occurred in September 1983 when the U.S. Air Force and Pan Am signed a contract to modify a Boeing 747-100 passenger aircraft to cargo convertibility. The contract included provisions for an additional 18 Pan Am 747-100 and 747-200 aircraft to be modified. As of February 1986, options for 16 of the additional 18 aircraft have been exercised. DoD is currently evaluating options to add more aircraft to the conversion process. Further, the Air Force is assessing expansion of the program to incorporate convertibility features in new procurement of wide-body passenger aircraft announced by major U.S. carriers and follow-on acquisition anticipated as a result of likely market growth.

The value of CRAF enhancement to DoD is that the resource capability exists in the private vice the public sector. The nearly three MTM/D of wartime cargo airlift capability represented by the United and Pan Am aircraft operate during peacetime as passenger common carriage. This arrangement results in a life cycle cost to DoD which is one-sixth of that were DoD to own, operate, and maintain comparable resources.

War Air Service Program (WASP)

The Department of Transportation (DoT), in accordance with the Defense Production Act and Executive Order 11490, is empowered to allocate transportation resources in times of need and to prioritize passenger and cargo traffic. Under this authority, DoT has established the WASP program to respond to airlift requirements.

The WASP ensures that essential national requirements are met by commercial air carriers during national emergencies. Civil aircraft not allocated to the CRAF would continue to be used in airline commercial service and would operate

under emergency rules, regulations, and orders issued by DoT for the movement of civilian and military war emergency priority passenger and cargo traffic. There are approximately 5,000 WASP aircraft.

The Secretary of Defense is authorized to administer a WASP Air Priorities System for the worldwide movement of DoD and DoD-sponsored traffic (passengers, mail, and cargo) over routes maintained as part of the WASP. Within DoD, MTMC is responsible for the administration of the domestic WASP system; MAC is responsible for international movements. As a matter of national policy, a system of priorities for control of WASP traffic is required in time of emergency because of the limits of available civil airlift capacity, and to assure that such traffic moves in accordance with its degree of urgency. The granting of priorities is based strictly on urgency, as related to the national emergency, regardless of the Government agency sponsoring the traffic. Movement priority of passengers is determined at the origin of each requirement based on four classes of priority precedence ranging from Class 1 (highest) to Class 4 (lowest) as follows:

- WASP Air Priority 1 – Traffic required for an emergency so acute that precedence is given over all other traffic. Under no circumstances should such traffic be delayed en route for other traffic.
- WASP Air Priority 2 – Traffic which is required to meet a destination arrival time to accomplish an urgent objective.
- WASP Air Priority 3 – Traffic of a less urgent nature required to meet a destination arrival time to accomplish an essential objective.
- WASP Air Priority 4 – Traffic which is eligible for airlift but which does not meet the requirements for movement as specified for Priorities 1, 2, and 3.

The WASP priority system is designed to help maintain a minimum essential domestic air route structure, to respond to changing requirements and shift assets from pleasure to business travel, to assure availability of aircraft for specific

charter (passenger/cargo) requirements, and to assure sensitivity to airlift priorities and their relative urgency of need.

Analysis

The focus of DoD peacetime airlift programs, in terms of airlift acquisition and day-to-day use of organic airlift resources, is on cargo airlift. This peacetime focus is wholly rational given the current wartime cargo airlift shortfall, the abundance of U.S. flag commercial passenger airlift, and the historic antecedents and policy background reviewed previously. Through the CRAF and the WASP programs, DoD wartime passenger airlift needs can be satisfied. In this regard, scarce DoD procurement, operations, and maintenance resources can be directed at remedial measures to increase war fighting and sustainment requirements. As a result, DoD has concentrated its procurement where need exists, i.e., reducing the cargo airlift shortfall. There is no need to replicate a wartime passenger airlift capability within organic resources. In the same vein, creation of an organic passenger airlift capability within DoD, to satisfy peacetime travel requirements for DoD personnel and their families, is equally questionable for parallel reasons.

COMMERCIAL AND MILITARY (ORGANIC) PASSENGER AIRLIFT OPERATIONS

Certification Requirements

Commercial

U.S. commercial air carriers are required by the Federal Aviation Act to have both economic and safety certification from DoT. FAA certificates carriers who possess DoT economic authority to operate and fly aircraft certified as airworthy in the United States and who meet the requirements for flight operations, maintenance, training, and safety in accordance with the Federal Aviation Regulations (FAR).

A prospective commercial carrier first obtains economic authority from DoT and then embarks on a detailed certification process with FAA. The carrier submits to the FAA regional office:

- Management personnel qualifications
- Aircraft availability and proposed maintenance program
- Aircraft minimum equipment list, cockpit checklist, and aircraft performance documents
- Carrier operating procedure manuals
- Proposed training programs
- Noise and emission plan
- Regulatory compliance documentation.

Upon receipt of the above, the FAA district office reviews all documentation and, if all is in order, approves the carrier training program.

Following FAA approval, and with FAA surveillance, the carrier conducts the following training:

- Crewmember emergency training
- Crewmember and dispatcher indoctrination training
- Crewmember ground training
- Simulator and aircraft training
- Aircrew type rating and proficiency checks
- Aircraft differences training.

Following the carrier's successful completion of all training, FAA inspects the carrier's aircraft; reviews all leases, contracts, and arrangements; and inspects the carrier facilities. The carrier then submits to FAA its operations specifications, an emergency evacuation demonstration plan, "proving test" plan (probationary test period), and its final regulatory compliance statement. This documentation is

reviewed by FAA and, upon acceptance, the carrier demonstrates emergency evacuation procedures and completes proving tests.

The final step in the certification process begins when FAA issues to the carrier its operations specifications and notifies DoT of intent to issue a certificate. FAA then completes all internal reports and the certification report and establishes a postcertification surveillance plan.

If at any point in this process a carrier's performance or documentation is deficient, those deficient items must be reaccomplished in compliance with the applicable FAR. After FAA has determined that the carrier is in compliance with the applicable FAR, an air carrier operating certificate is issued.

Department of Defense

Military (DoD) operations are conducted in accordance with DoD instructions, regulations, and procedures which incorporate all applicable FAR. Military aircraft generally do not maintain airworthiness certification from DoT; however, certain DoD aircraft (C-9, T-43, C-12, C-21, etc.) which are essentially "off-the-shelf" commercial aircraft do have FAA airworthiness certification. DoD maintenance requirements may not conform to FAA requirements for like commercial aircraft.

Analysis

Although the FAA certification process is rigorous, it is a one-time occurrence. Subsequent to certification, FAA relies on its operations and maintenance inspectors and the integrity of the air carriers to maintain full compliance with the FAR. The viability of this system becomes suspect in view of the declining numbers of FAA inspectors in relation to the growth of the aviation industry.

Safety Standards

Flight operations, by nature, are more hazardous than most other activities. This fact dictates that management must visibly support and encourage safety in all aspects of flying operations.

DoD has long recognized the hazards involved in aviation and has expended considerable resources in an effort to reduce to the lowest acceptable level the risks associated with flight operations. An extensive network of safety personnel is in place. The Assistant Secretary of Defense (Force Management and Personnel) has oversight responsibility and provides safety program policy guidance to the DoD Components. Each DoD Component has a senior manager who is responsible for the Component's safety programs, and safety personnel are assigned throughout each subsequent level of command or supervision. For example, each MAC flying squadron has a rated officer who administers the Commander's flight safety program. Similarly, each wing, Numbered Air Force, and the Command headquarters staff have flight safety personnel assigned. These safety personnel play an active role in their respective unit safety programs and are key advisors to the commander on matters involving safety.

Several air carriers were visited to gather data for this report. Generally, flight safety is a function of the senior manager for operations in the corporate structure. Further, the chief pilot and engineer, along with the organizations' check airmen, have responsibility under FAA surveillance for monitoring and evaluating company policies, procedures, and personnel to ensure safe operation of the corporate aircraft in compliance with FAA regulations. Without exception, these people expressed great concern for adherence to published policies and procedures by company personnel. Senior manager support and involvement in company safety programs was evident, as was the involvement of FAA inspectors.

Overall operational safety standards for both DoD and commercial carriers are similar and adherence to these procedures provides a proven acceptable margin of safety. For example, Table 2-10 displays FAA and MAC restrictions on maximum flight times.

TABLE 2-10. AIRCREW FLIGHT OPERATIONS LIMITATION REQUIREMENTS

MAXIMUM HOURS FLIGHT TIME	MAC	FAA
Month	125	120
90 Consecutive Days	330	300
Annually	1,320	1,000

NOTE: In almost all cases, individual carriers' policies are more restrictive than minimum FAA standards, because of the influence of employee representative groups.

Other requirements, such as crew rest and aircrew operational checklist procedures, are almost identical. MAC policy concerning preflight inspection of the aircraft by the flightcrew requires a detailed aircraft walkaround inspection prior to each mission with abbreviated operational aircraft systems checks at en route stops. FAA requirements for aircrew preflight inspection of the aircraft are similar and are incorporated into specific carrier manuals and checklists which are approved by FAA during the certification process.

Analysis

The published safety standards, operational procedures, and policies of both DoD and FAA are generally compatible. As is the case with aircrew training requirements, both agencies amend safety policies and procedures as necessary to ensure that the level of risk associated with flight operations is reduced to the lowest acceptable level.

Safety Performance of Civil and Military Airlift

Comparisons of military and civilian safety records pertaining to passenger airlift are extremely difficult and of limited value due to differences in aircraft design and utilization and the unique mission of military airlift. In addition, the

accident statistics maintained by the Military Departments differ in format from those maintained by NTSB.

Military aircraft capable of transporting passengers or cargo are designed and produced to support U.S. forces in time of conflict. For reasons addressed elsewhere in this report, and due to the availability of a significant number of commercial passenger configured aircraft, military airlift aircraft are primarily used for cargo transport. Military aircraft are utilized in a much more demanding environment than commercial aircraft. Military aircraft are used for training inexperienced aircrews and maintenance personnel. They must endure multiple takeoffs, landings, and instrument approaches on a single flight as well as emergency procedure training, tactical flying (low-level terrain avoidance, air-to-air refueling, air drop, etc.) and must be capable of operating from unimproved airfields. In contrast, a typical commercial mission involves only two to three takeoffs, approaches, and landings. It is apparent that military accidents are more likely to occur due to the more hazardous environment in which military aircraft are operated. Compounding the difficulty of drawing a valid comparison is the fact that there are few matching military and commercial aircraft, and those military aircraft of the same design are usually modified for an entirely different mission than their civilian counterparts. For example, the military version of the DC-9 is modified to perform a medical evacuation mission and military DC-10 aircraft are modified to perform as aerial refueling tankers. Civilian aircraft are not directly comparable to the C-5 and C-141.

An additional problem faced when attempting to compare military and civilian accident statistics is the incompatibility of NTSB statistics with those of the Military Departments. NTSB statistics define cargo and passenger flights; however, military statistics are generally kept by aircraft designation and phase of flight rather than by mission (i.e., cargo or passenger) assignment.

Taking into account the inherent differences in these two aviation arenas, a review of NTSB and military accident statistics indicates that during the years 1968 through 1985 DoD commercial charter passenger operations experienced two crashes which resulted in 294 fatalities. During the same period, excluding all tactical support missions, 15 military crashes involving DoD passengers have been identified. These accidents resulted in 372 fatalities. Care should be exercised when attempting to draw any conclusions from these raw data, which are presented in Table 2-11.

In a further attempt to draw a comparison between the military and civil sector flight safety record, MAC accidents in similar mission aircraft (e.g., C-5, C-141, C-9, C-12, C-21) and commercial scheduled airline accidents were compiled for the past 3 years. Table 2-12 displays the number of accidents and the accident rate per 100,000 flight hours. (An accident is defined by 49 CFR[1] as an occurrence which results in death or serious injury to any person or in substantial damage to an aircraft.)

A comparison of the safety records of U.S. scheduled carriers and U.S. nonscheduled carriers operating under 14 CFR 121, carrying both cargo and passengers for the period 1975 through 1985, reveals that the scheduled carriers experienced 32 fatal accidents resulting in 1,202 fatalities, while nonscheduled carriers experienced 9 fatal accidents resulting in 913 fatalities. This data is reflected in Table 2-13, which depicts fatal accidents, fatalities, and rates of U.S. air carriers operating under 14 CFR 121 in all scheduled service during the period 1975 through 1984.

[1]Code of Federal Regulations.

TABLE 2-11. FATAL NONCOMBAT DoD PASSENGER FLIGHTS

DATE	SERVICE	AIRCRAFT	FATALITIES
10 January 1968	Navy	C-54	19
4 August 1969	Navy	C-47	16
18 September 1969	Air Force	C-47	5
28 August 1973	Air Force	C-141	17
11 December 1973	Navy	C-118	10
20 March 1975	Air Force	C-141	8
4 April 1975	Air Force	C-5	155
28 August 1976	Air Force	C-141	27
28 August 1976	Air Force	C-141	19
26 September 1976	Air Force	KC-135	13
6 October 1978	Navy	C-118	16
12 November 1980	Air Force	C-141	13
19 March 1982	Air Force	KC-135	31
30 April 1983	Navy	C-131	14
12 July 1984	Air Force	C-141	9
TOTAL			372

TABLE 2-12. NUMBER OF ACCIDENTS/RATE

CARRIER	1983		1984		1985	
	Accidents	Rate[1]	Accidents	Rate[1]	Accidents	Rate[1]
Scheduled Airlines	23	0.34	14	0.19	18	0.23
MAC	2	0.43	1	0.21	1	0.20

[1]Per 100,000 flight hours.

TABLE 2-13. SCHEDULED/NONSCHEDULED AIR SERVICE ACCIDENT DATA

(14 CFR 121)

YEAR	NUMBER OF FATAL ACCIDENTS		NUMBER OF FATALITIES		RATE (FATAL ACCIDENTS PER 100,000 HOURS)	
	Scheduled	Nonscheduled	Scheduled	Nonscheduled	Scheduled	Nonscheduled
1975	2	1	122	2	0.037	0.541
1976	2	0	38	0	0.036	0
1977	3	2	78	577[a]	0.052	0.830
1978	5	0	160	0	0.083	0
1979	4	1	351	3	0.060	0.603
1980	0	1	0	1	0	0.371
1981	4	0	4	0	0.061	0
1982	3	1	233	1	0.047	0.382
1983	4	0	15	0	0.060	0
1984	1	0	4	0	0.014	0
1985[b]	4	3	197	329	0.051	0.901
TOTAL	32	9	1,202	913	—	—

[a]Includes 574 fatalities occurring at Tenerife, Canary Islands, in ground collision of Pan Am and KLM 747 aircraft operating on a nonscheduled basis.

[b]Rates based on estimated flying hours for 1985.

NOTE: Includes accidents involving deregulated all-cargo air carriers and commercial operators of large aircraft when those accidents occurred during scheduled and nonscheduled 14 CRF 121 operations.

SOURCE: NTSB.

A closer examination of the U.S. nonscheduled or supplemental passenger carrier operations during 1971 through 1984 reveals that no passenger fatalities were experienced during that period.

Analysis

Examination of accident investigation reports from NTSB and DoD failed to reveal any identifiable trends. Although civil air carrier accident rates per

100,000 flight hours are generally lower than DoD rates, the notion that civil carriers are more or less safe than military airlift could not be substantiated.

Maintenance

Maintenance Requirements

The two broad categories of aircraft maintenance requirements are scheduled and unscheduled maintenance. Scheduled maintenance is preventive in nature and performed at intervals based on either the number of accrued flying hours or a calendar period. The scheduled maintenance concept is designed to detect a critical condition or to change a critical component before failure. Unscheduled maintenance is corrective in nature. Unscheduled maintenance is performed when a discrepancy is detected and prior to the next flight if the condition is a safety of flight or mission-essential item.

Scheduled Maintenance

A Reliability Centered Maintenance philosophy is the basis for both the military and commercial scheduled maintenance programs. The objective of Reliability Centered Maintenance is to develop a minimum preventive maintenance program that ensures safe and reliable aircraft economically. Preventive maintenance programs are initially developed in the same manner for both military and civilian aircraft. It is a combined effort of manufacturer, civilian or military engineering personnel, and military or civilian owners (and FAA if a civilian aircraft is involved). A systematic approach for identifying and developing preventive maintenance tasks applies failure mode effects analysis, a decision logic process, and operational data and experience (from similar or the same type aircraft).

Within the Air Force, the Air Force Logistics Command is the approval authority for military preventive maintenance programs; FAA approves civil programs. Table 2-14 depicts MAC airlift aircraft inspection intervals, and Table 2-15 depicts the inspection intervals for selected civilian aircraft.

TABLE 2-14. MAC AIRLIFT AIRCRAFT INSPECTION INTERVALS

INSPECTION	C-5A	C-141	C-130
Preflight	Before first flight of the flying period – valid for 24 hours	Before first flight of the flying period – valid for 24 hours	Before first flight of the flying period – valid for 72 hours
Thruflight	Between flights and at en route stops	Between flights and at en route stops	Between flights and at en route stops
Basic postflight	After last flight of the flying period	After last flight of the flying period	After last flight of the flying period
Home station check	30 days	30 days	35 days
Minor	150 days	150 days	150 days
Major	450 days	300 days	840 days
Programmed depot maintenance	42 months	48 months	C-130E 42 months C-130H 36 months C-130A 24 months

TABLE 2-15. CIVILIAN AIRLIFT AIRCRAFT INSPECTION INTERVALS

INSPECTION	BOEING 747-271C	DC-8-73F	L-382	BOEING 727-100C
Preflight	Prior to flight at every crew change or when aircraft not flown in 12 hours	Prior to flight at every crew change or when aircraft not flown in 12 hours	Prior to flight at every crew change or when aircraft not flown in 12 hours	Daily check if ground time is greater than 6 hours
"A" Service	Not to exceed 300 hours in service	Not to exceed 150 hours in service	Not to exceed 125 hours in service	Not to exceed 100 hours in service
"B" Service	Not to exceed 131 days	Not to exceed 1,000 hours in service	N/A	Not to exceed 600 hours in service
"M" Service	N/A	N/A	Not to exceed 500 hours in service (4 segments at 125 hours each or performed all at once	N/A
"C" Service	Not to exceed 13 months	Not to exceed 3,200 hours in service	Not to exceed 3,000 hours in service	Not to exceed 1,200 hours in service
"D" Service	Not to exceed 25,000 hours in service	Not to exceed 25,000 hours in service	Combined in "C" Services by segments	Not to exceed 8,400 hours in service

MAC Airlift Scheduled Aircraft Inspections. The following is a brief description of inspections performed on MAC airlift aircraft.

The "preflight" inspection includes visually examining the aircraft and operationally checking certain systems and components to ensure there are no serious defects or malfunctions. This inspection includes checks to ensure that emergency equipment is available and suitable for use; that aircraft systems such as hydraulic, pneumatic, oxygen and fire extinguishing systems are properly serviced; and that aircraft doors, panels, accessible tubing, wiring and structural components are properly installed and free of defects. Emergency exit lights and cargo doors are checked for proper operation.

The "thruflight" inspection consists of checking the aircraft for flight continuance by performing visual examination or operational checks of certain components, areas, or systems to assure that no defects exist which would be detrimental to further flight. This inspection consists basically of the same items as covered by the preflight inspection.

The "basic postflight" inspection consists of checking the aircraft condition by performing visual examination or operational checks of certain components, areas or systems to assure that no defects exist which would be detrimental to flight. The basic postflight inspection is a more thorough check than the preflight or thruflight inspections. This inspection includes all the items covered on preflight inspection with additional items being checked. This inspection also takes the place of a preflight if the aircraft ground time will not exceed 24 hours.

The "home station check" is an inspection that includes all items included in the basic postflight inspection with additional items added to clean the airframe, lubricate many of the aircraft systems, and a more thorough check of engine components and controls.

The "minor isochronal" inspection consists of checking certain components, areas, or systems of the aircraft to determine if conditions exist which, if not corrected, could result in failure or malfunction of a component prior to the next scheduled inspection. This inspection consists of a thorough inspection of aircraft systems and involves the removal of aircraft panels and components to gain access to areas not inspected during the preflight, thruflight, basic postflight, and home station check inspections. Every other minor inspection is completed in conjunction with a major isochronal inspection.

The "major isochronal" inspection is a thorough and searching inspection of the entire aircraft. The inspection consists primarily of checking certain components, areas, and systems of the aircraft which, due to their function, require less frequent inspection than that required by other inspections. This inspection is accomplished to determine if a condition exists which, if not corrected, could result in failure of a component or cause a system malfunction prior to the next scheduled inspection.

"Programmed depot maintenance" is an inspection requiring skills, equipment, or facilities not normally possessed by operation locations. Individual areas, components, and systems are inspected to a degree beyond the previous inspections. A majority of this inspection is completed using nondestructive inspection techniques which can reveal hidden defects not visible to the human eye even when using magnifying devices.

"Analytical condition" inspections are indepth inspections accomplished on a representative sample of aircraft to uncover hidden defects that are not detectable through normal inspection programs. Engineering evaluations are made using the results of these inspections; the maintaining commands are then informed of the results so that actions can be taken to correct deficiencies.

"Special" inspections contain instructions to be followed upon the accrual of a specified number of flying hours or equipment hours of operation; a lapse of calendar days, months, or years; after a certain number of full stop landings, total landings, or pressurization cycles; or after the occurrence of a specific or unusual condition (e.g., after a foreign object/bird strike, whenever a lightning strike has been observed, before flight when an aircraft has been inactive over 15 days, or after a violent maneuver).

"One-time" inspections are directed when a condition is suspected to exist which may be detrimental to aircraft operations.

Civil Carriers' Scheduled Aircraft Inspections. The civil carriers' scheduled maintenance inspections are commonly entitled "A," "B," "C," and "D" services. Airlines not using this classification system may have other terminology such as station service, intermediate, structural, "M" service, major check, etc. The "A" service is the least comprehensive inspection and the "D" service the most comprehensive inspection. The requirements for each type service are basically determined from manufacturer's design specifications and user's operational experience.

The initial maintenance specification for each new type airplane manufactured for airline use is developed by a Maintenance Review Board. This board is convened and chaired by FAA for the purpose of reviewing and, when found satisfactory, approving a maintenance specification which may be individually used by each carrier as a basis for its maintenance program. The specification is developed by FAA through the use of committees composed of FAA inspectors, airline personnel, and personnel from the manufacturers of the aircraft, engines, and other key components. The carrier transcribes the Maintenance Review Board Report into a maintenance schedule in order to accomplish each maintenance task within the time limitation required by the specification. Specific maintenance requirements for the "A," "B," "C," and "D" services are derived from this process and require FAA

approval. The specification and/or service interval may be revised after the aircraft is in service. Revisions primarily reflect service experience as disclosed by disassembly analysis of removed components and analysis of inspection findings. Revisions may also result from manufacturers' service bulletins, experience of other operations, service difficulties, and other indications of a need for program improvement. Revisions often emanate from FAA and are derived from sources such as air worthiness directives, observations of improper or inadequate maintenance during FAA inspections, and reports concerning service difficulty or mechanical performance. Revisions also require FAA approval.

Both military and civilian scheduled maintenance programs require continual monitoring for appropriateness. Continued management attention is necessary to confirm, through operational experience, the effectiveness and economy of the initially specified maintenance actions and tasks intervals, and to make adjustments using real operational data generated on the aircraft.

Unscheduled Maintenance

Conditions discovered between scheduled maintenance intervals and during daily operation of aircraft are repaired before next flight or deferred based primarily on a safety of flight determination. Except for some differences in terminology, the concept for reacting to unscheduled maintenance requirements are basically the same for military and civil carriers. The military generally partitions unscheduled maintenance requirements as safety of flight and/or mission essential; the civil carriers refer to minor and major categories. The minor discrepancies are generally cosmetic in nature while the major category is then partitioned as to whether or not they are safety of flight and/or mission-essential items. For the most part, and for both military and civilian aircraft, safety of flight and mission-essential conditions are standard for each type aircraft and listed in applicable aircraft manuals/regulations. However, the bottom line is that if the aircrew or maintenance

technician believes that the condition impacts safety of flight, it will be classified as such and be evaluated and corrected before next flight. Military and civil carriers require dual signatures to clear a safety of flight condition. The technician performing the required maintenance signs aircraft forms to indicate the maintenance has, in fact, been accomplished; then a technician qualified and authorized to inspect the corrective action does so and signs the aircraft forms. As a final safety of flight assurance, an authorized maintenance supervisor or pilot is required to review the aircraft forms for completed or open maintenance discrepancies prior to each flight.

The conditions classified as nonsafety of flight or mission essential are corrected when discovered, time permitting and/or resources available, or they are docmented and deferred. Deferred items are then corrected at the first opportune time, i.e, during scheduled maintenance or at some other time when the aircraft has sufficient downtime.

Maintenance Quality Assurance

The Air Force requires by regulation (Air Force Regulations 66-1, "Maintenance Management Policy") a highly structured quality assurance program at every location that performs aircraft maintenance. Quality assurance is manned by experienced maintenance technicians, carefully screened to ensure they are technically qualified and temperamentally suited for the job. Quality assurance has the primary role of assessing the unit's adherence to quality standards. Aircraft are evaluated through a quality verification inspection following a maintenance inspection or repair action. Verification inspections evaluate the appropriateness of the maintenance action. Personnel are judged through after-the-fact and over-the-shoulder evaluations of actual maintenance tasks to ensure proper procedures and compliance with technical directives. Monthly quotas are established for both quality verification and personnel inspections.

There are two higher levels of quality assurance oversight, external to the unit. These are the command level Maintenance Standardization and Evaluation Team (MSET) and the Inspector General evaluations.

MSET, made up of senior-level technicians and officers, inspects on a 24-month cycle every unit that performs maintenance on aircraft or related support equipment. MSET does an all-encompassing evaluation of each unit's quality of maintenance and performs both equipment and personnel evaluations using the same criteria as the local unit. Additionally, MSET evaluates the unit's compliance with maintenance directives of a management nature.

The Inspector General evaluations periodically test each unit's capability to perform its assigned mission and the means and methods used. Thus, the Inspector General performs both Operational Readiness Inspections and Management Effectiveness Inspections which thoroughly evaluate the unit's capabilities and compliance with management and technical directives.

Commercial carriers are required by the FAR to establish and maintain a system for (1) the continuing analysis and surveillance of the performance and effectiveness of its inspection program and of the program covering other maintenance, preventive maintenance, and alterations and (2) the correction of any deficiency in those programs, regardless of whether those programs are carried out by the certificate holder or by another person. The carriers' quality control department is tasked with the above responsibility. Like the military, quality assurance inspectors evaluate performed maintenance tasks, inspections, and personnel proficiency. Trends and problem areas are identified through the collection and analysis of statistical data.

FAA provides oversight of the quality of maintenance performed by civil carriers. FAA periodically inspects a carrier's total operation. The inspection is aimed at determining the level of compliance with FAA regulations and the

appropriateness of established programs in all aspects of operations, training, maintenance, personnel certifications, management, and equipment used. FAA performs random/special inspections of some or all of a carrier's operations when there is reason to suspect that a carrier is in noncompliance. Also, on almost a daily basis, one to three maintenance inspectors assigned to oversee a particular carrier make spot checks on the maintenance being performed and compliance with directives.

The following are typical direct aircraft surveillance inspections performed by FAA:

- Aircraft ramp checks and maintenance spot checks are defined inspections for sampling the quality of maintenance and the degree of the carrier's compliance with established maintenance standards and procedures.

- Maintenance facility inspections are performed for the specific purpose of determining the adequacy of personnel and facilities at any location at which maintenance is to be performed. The primary objective of maintenance facility inspections is to determine that adequate housing, equipment, spare parts, technical information, and qualified personnel are available to satisfactorily perform the functions accomplished at a particular location.

- Qualified inspectors conduct en route inspections on civil carrier aircraft. The following are key items of the en route inspections:

  - A walkaround check of the aircraft for security and general conditions prior to departure

  - Monitor systems for proper operation during takeoff, landing, and inflight

  - Review the aircraft logbook for specific items that warrant special attention

  - Check passenger compartment safety compliance per FAA requirements.

FAA exerts additional influence on civil air carriers through the issuance of airworthiness directives. The airworthiness directives usually specify a particular inspection or repair/modification that is mandatory for compliance before the

expiration of a given time period on a specific type aircraft. All carriers operating that type aircraft are required to comply.

Maintenance Training

Both military and civil carriers adhere to a basic principle that all aircraft maintenance will be performed by individuals who are trained, qualified, and certified to perform the tasks assigned. Formal training programs consist of a combination of classroom presentations, on-the-job training, home study, and testing. While the basic principle of training is the same, there are some differences in classifications and terminology.

Within the Air Force, the three broad categories of military aircraft maintenance are airplane general, engine, and avionics. Subcategories are used for qualifications on specific type aircraft, systems, and skill levels. (Skill levels are denoted by the numbers 3, 5, 7, and 9. See Table 2-16.) The following defines the basic classification requirements.

TABLE 2-16. AIR FORCE AIRCRAFT MAINTENANCE SKILL LEVEL TRAINING PERIOD AND TIME IN SERVICE REQUIREMENTS

SKILL LEVEL	GENERAL		AVIONICS		ENGINE	
	Training Period	Time in Service	Training Period	Time in Service	Training Period	Time in Service
3	11-13 weeks	5 months	29 weeks	9 months	9 weeks	4 months
5	6-18 months	11-23 months	6-18 months	15-27 months	6-18 months	10-22 months
7	8-12 months	40-48 months	12-18 months	40-48 months	12-18 months	40-48 months
9	N/A	12-16 years	N/A	12-16 years	N/A	12-16 years

Airplane General Mechanic (Air Force)

The individual first must complete a 7-week technical training center course that teaches general, generic maintenance policies and airplane systems and is then assigned to a maintenance unit and completes a 4- to 5-week course that teaches maintenance requirements on a specific type system. The individual is then designated as having achieved level 3. (A level-3 individual must be supervised at all times when performing maintenance.) Upgrade training to a level 5 requires 6 to 18 months, depending upon individual effort and complexity of aircraft type , and consists of classroom presentations, career development courses (correspondence), and on-the-job-training. Upgrade to a level 7 requires promotion to Staff Sergeant and another formal training program (10 to 12 months) as was required for the level 5 upgrade. (Promotion to Staff Sergeant normally occurs during 40 to 48 months time in service.) Level 9 is awarded after promotion to Master Sergeant (normally 12 to 16 years in service) and successful completion of a written supervisory test.

Engine and Avionics Mechanics

Engine and avionics mechanics progress in skill levels is also through a series of technical schools and formal upgrade training programs. The grade requirements are the same as presented above for the airplane general mechanic. The technical schools and upgrade training periods vary depending upon the complexity of systems and tasks and individual effort.

Civil Maintenance Ratings

Civil carriers are required to establish a program for training maintenance personnel and obtain FAA approval of the program. The scope of the program should be sufficient to ensure that aircraft are being maintained at a high level of airworthiness. The degree of training for each individual is dependent upon experience and the complexity of the work the individual will be required to perform.

There are two basic ratings for civil carrier maintenance personnel: airframe and powerplant. An airframe rating basically makes an individual eligible for training to do work on all aircraft components, including avionics, except for powerplants and propellers. Most personnel obtain airframe and/or powerplant ratings from FAA-approved institutions prior to working for a civil carrier.

Prior to actually performing maintenance, new hires must successfully complete the civil carrier's formal training program for the specific tasks the individual will be required to perform. Training is tailored for a specific task and specific type aircraft. After initial training, recurrent training is required to maintain currentness.

Analysis

The maintenance concepts and practices of both the military and civil carriers are essentially the same. Preventive maintenance programs are initially developed in the same manner, with inspection requirements derived from design specifications and operational experience. Both conduct continual surveillance of the established programs to maintain currentness and appropriateness.

Quality assurance programs are key to the air worthiness of both military and civil aircraft. Organic elements are assigned responsibilities for assuring the quality of daily maintenance. The military command level MSET and FAA periodically inspect the military maintenance organizations and civil carrier maintenance departments, respectively, to ensure compliance with appropriate directives and quality maintenance. Military organizations are inspected at least every 2 years; there is no specific time interval for FAA inspection of civil carriers. It is noted, however, that carriers receive spot inspections from one to three maintenance inspectors almost daily.

Training for both military and civil maintenance personnel is structured and formal. A common, key ingredient is that personnel must be trained and

certified before they are allowed to perform maintenance. The military maintenance technicians are more specialized and restricted to working on a limited number of systems. A civil mechanic with an airframe and powerplant rating can be certified for all systems. This difference is attributed to the fact that civil maintenance personnel are generally more experienced and their longevity with a specific type aircraft is greater.

In summation, both military and civil carrier maintenance programs are time-tested and capable of providing airworthy aircraft when adhered to. There is no substantial difference in philosophy or programs except for terminology. Sustained emphasis on quality assurance programs is the best means to gauge airworthiness.

Aircrew Qualifications

Any comparison of civilian and military aircrew qualifications must, of necessity, be limited to a comparison of the qualifications of personnel who operate similar aircraft on comparable mission profiles. For the purpose of this report, the military aircrew qualifications addressed are limited to MAC aircrews operating military aircraft similar to civil carriers' equipment.

The environment in which such comparable military and civil aircraft are utilized is similar in almost every respect. Civil carriers operate over a fixed route system transporting passengers and/or cargo in both scheduled and nonscheduled operations. MAC aircrews operate over a varied route structure transporting primarily cargo. However, when space is available and the cargo hazard classification does not preclude it, passengers are carried.

En route flight procedures for both military and civilian aircrews are identical. Both rely on FAA en route traffic controllers and, while civilian carriers do not routinely transit military airfields as do MAC aircrews, the military airfield instrument-aided approaches are designed in accordance with FAA criteria and are approved by FAA. International flights by both civil and military aircrews likewise

are conducted in accordance with International Civil Aviation Organization rules and procedures. Flight plans and clearances are identical as are the transoceanic routings and, in the case of DoD civilian charter operations, the same air terminals are used.

In order to compare aircrew demographics, MAC provided data on its aircrew personnel. A telephone survey of six representative CRAF carriers was conducted and the Future Airline Pilots of America provided data on the commercial industry at large. The information displayed in Table 2-17 is a compilation of that data.

TABLE 2-17. AIRCREW DEMOGRAPHICS

AIRCREW DEMOGRAPHIC ELEMENT	MAC	CRAF	INDUSTRY AT LARGE
Average Aircraft Commander/Captain			
Total Flight Hours	3,420	10 – 15,000	15 – 20,000
Average Flight Hours/Month	36	60	50-66
Average Copilot/First Officer			
Total Flight Hours	1,690	4 – 6,000	3,400
Average Flight Hours/Month	38	60	50-60
Average Total Flight Time			
New Hires	518	1,500 – 5,000	1,000
Previous Military Experience (%)	—	25% – 50%	*

*Decreased over the past 5 years from 83 percent to 37 percent.

A comparison of the training required for an individual to be certified as an aircraft commander by both FAA and MAC revealed that both training programs are fairly consistent, with minor variances in the number of hours of instruction

required. Both require extensive ground school instruction in conjunction with aircraft simulator and actual flight training.

Once certified as an aircraft commander or captain, continuation training required by FAA and MAC again are similar. Both require annual aircraft simulator training, an annual ground school, and both civilian and MAC pilots must successfully complete annual flight evaluation checks. In addition, both FAA and MAC require the accomplishment of certain proficiency events on a quarterly, semiannual, or annual basis. Table 2-18 displays those items for comparison.

TABLE 2-18. REQUIRED PROFICIENCY EVENTS

PERIOD	FAA	MAC
Quarterly	3 takeoffs and landings	6 takeoffs and landings
Semiannual	see annual check requirements below	20 instrument approaches (12 precision, 8 nonprecision)
Annual	Ground School	Ground School
Flight Evaluation Checks:		
Captain/Aircraft Commander	2 proficiency or one proficiency and 4-hour simulator course 1 company line check	1 proficiency (simulator) 1 composite 1 line check
Copilot/First Officer	1 proficiency or 4-hour simulator course	1 proficiency (simulator) 1 composite

NOTE: MAC also requires one proficiency training flight per quarter for aircraft commanders and one per month for copilots.

Analysis

Civil carrier flightcrew personnel experience levels generally exceed the experience levels of MAC flightcrew personnel in terms of the number of hours flown. If the total number of flying hours accumulated is a valid measure of the qualifications an individual must possess in order to perform as the person in charge

of an aircraft, then, as a group, civil airline pilots are more qualified than their military counterparts. Using total flight hours as the sole method of determining whether an individual is qualified can, however, lead to misconceptions. Other factors, such as required training and proficiency requirements, must be assessed when making a qualification determination. Both military and civilian pilot training programs and proficiency requirements are similar. These programs and requirements have evolved over time and are continually modified to provide the trainee with the means to respond to emergency situations by using the accumulated knowledge gained from previous accident and incident investigations. Differences between civilian and military training and proficiency requirements are the result of varying levels of flight personnel experience and differences in mission requirements. The training, proficiency, and experience requirements for both civil and military aviators ensure that only qualified individuals are selected for aircraft commander or captain.

3. PROCUREMENT OF PASSENGER AIRLIFT

THE TRANSPORTATION OPERATING AGENCY (TOA) MISSIONS OF MAC AND MTMC

MAC is responsible for procurement of all international passenger airlift requirements, both the movement on scheduled commercial service and full plane-load charter, and for procurement of domestic long-term requirements with duration of 90 days or more.

MTMC is responsible for domestic passenger airlift, to include scheduled and charter service, for requirements less than 90 days.

International

The current procedures used by MAC to procure commercial airlift services are based on the Presidentially approved Courses of Action contained in the previously mentioned February 1960 DoD study, "The Role of the Military Air Transport Service in Peace and War."

Prior to 1961, peacetime commercial airlift services were obtained by the competitive bidding process with both Civil Aeronautics Board (CAB) regulated and unregulated companies eligible to bid. This led to bid prices which CAB termed dangerously low, a result caused, in part, by the fact that many companies not subject to regulation by CAB were free to submit bids as low as they desired, without consideration of the effect upon the air transport industry. In periods of excess capacity, this produced bids at less than full cost, and thus added to the economic problems of the airlines. Participation in the Civil Reserve Air Fleet (CRAF) program was not a prerequisite to bidding. The purchase of civil airlift service to meet ongoing peacetime needs, and contractual arrangements for potential activation of the CRAF, were entirely separate. This had several undesirable effects.

First, most of the carriers having CRAF aircraft were not performing any peacetime DoD airlift and, therefore, not obtaining the needed training for their crews and management personnel. Second, several of the carriers with substantial numbers of aircraft suitable for the CRAF refused to sign CRAF standby contracts as there was no incentive for carriers to commit their aircraft to the CRAF; thus, there was no contractual commitment of their aircraft to the CRAF for DoD use in emergencies.

As a result of the 1960 Presidentially approved Courses of Action, DoD established the following requirements for carriers desiring to participate in DoD peacetime international movement of passengers and cargo:

- Carrier Prerequisites
  - Carriers must possess a Certificate of Convenience and Necessity issued by DoT (formerly CAB) under Section 401 of the Federal Aviation Act of 1958, as amended, or be otherwise authorized by DoT or Public Law 98-443 to engage in air transportation for MAC.
  - Carriers must possess a certificate issued by the Federal Aviation Administration (FAA) under Part 121 of the Federal Aviation Regulation (FAR) (14 CFR 121), the most stringent of the FAR.
- CRAF Requirements
  - Carriers must own or otherwise control U.S. registered aircraft that are suitable for the CRAF.
  - Carriers must maintain four qualified crews per aircraft for a utilization rate of at least 10 hours per day per aircraft.
  - Carriers must obtain at least 60 percent of their total annual air transportation revenues from commercial sources, or have their MAC business reduced accordingly.
  - Carriers must perform at uniform rates established by MAC.
  - Carriers must undergo a MAC capability survey.

Award Evaluation

Each year MAC issues a solicitation to industry which lists the quantities of passengers and cargo to be moved by commercial airlift throughout the next fiscal year as full plane load (Category B) or block seats on scheduled service (Category Y).

Any carrier that meets the certificate requirements and possesses aircraft suitable for the CRAF is eligible to submit a proposal. Since MAC establishes uniform rates per passenger/ton mile, to which all carriers agree, price is not a factor in the evaluation of awards. The MAC uniform rate concept is discussed in detail in Appendix P, and establishes the fact that the CRAF mobilization base is more important than price competition. The primary factor in award evaluation is the quantity of CRAF suitable aircraft offered for the three stages of the CRAF. Each aircraft is assigned a mobilization value (MV) based on its speed, range, and payload capability. Cargo capable aircraft receive a greater MV than passenger aircraft due to shortage of cargo capability. The sum of carrier's MV points represents a percentage of the total MV points of all carriers combined and that percentage is the carrier's share of the peacetime business, passengers, and cargo combined. Each carrier's MV points are adjusted downward for failure to achieve 60 percent commercial revenues during the prior 12-month period. For example, if a carrier achieved only 50 percent commercial revenues during the previous 12-month period, its MV points are reduced by 16.6 percent. After each carrier's award entitlement has been determined, negotiations are conducted to obtain agreements on the airlift services to be performed by route, type of aircraft, and time period. In addition to requiring mandatory additional airlift services to be performed upon declaration of any of the three stages of the CRAF, the contracts also provide for performance of additional services during peacetime on a voluntary basis. The additional peacetime services are offered to carriers on the same percentage basis as each carrier's share of the initial fiscal year award entitlement. This contract provision allows DoD to respond on short notice to any crisis that may arise. Additionally, it assures DoD of obtaining the added airlift capability at the uniform rates even in periods of peak demand.

The volume of international passenger movement, arranged by MAC, including both movement on scheduled service and full plane charter, approximates $300 million per fiscal year, as shown in Table 3-1.

TABLE 3-1. MAC-PROCURED INTERNATIONAL PASSENGER MOVEMENT

FISCAL YEAR	NUMBER OF CARRIERS	COST ($)
83	20	297,085,000
84	19	293,606,000
85	20	305,855,000

NOTE: See Appendix Q for volume by carrier.

MTMC Domestic Responsibility

General Passenger Movement

Domestic travel is basically divided into traffic arranged by MTMC and locally by Installation Transportation Officers/Traffic Management Officers (ITOs/TMOs). Table 3-2 illustrates the volume of traffic arranged by each of these entities.

Nearly 70 percent of the total 6.66 million passengers moved by ITOs and MTMC in fiscal year 1985 (FY85) moved by air and consumed 97 percent of the $872 million spent for DoD passenger transportation. To accomplish these movements, 372 air carriers, worldwide, were used, including major scheduled domestic airlines, commuter airlines, air taxi operators, charter carriers, and foreign flag airlines. The number of air carriers used and ITO/MTMC passengers moved by air between FY83 and FY85 is shown in Table 3-3.

The division of passenger routing authority is made within the jointly staffed Military Traffic Management Regulation (MTMR). MTMC retains the responsibility for movement of groups within the continental United States

TABLE 3-2. ITO AND MTMC ROUTED AIRLIFT TRAFFIC

(FY85)

AIRLIFT	PASSENGERS	COST ($)
ITO ROUTED		
Domestic	3,478,283	557,543,638
International[1]	581,607	206,556,738
TOTAL	4,059,890	764,100,376
MTMC ROUTED		
Scheduled Service		
(Group)	110,699	16,796,215
(PSRO)[2]	224,013	32,968,726
Charter	177,669	31,657,803
TOTAL	512,381	81,422,744
GRAND TOTAL	4,572,271	845,523,120

[1]International traffic routed by ITOs consists of individual travel to places either not served by MAC or MAC schedule cannot meet individual mission requirements. The traffic is in addition to Table 3-1. The majority of these requirements are met using negotiated "Category Z" discount fares or "Commercial Standard" fares where no other special DoD fares are available.

[2]Passenger Standing Route Order.

TABLE 3-3. NUMBER OF AIR CARRIERS USED BY DoD WORLDWIDE

(FY83 – FY85)

FY	NUMBER OF AIR CARRIERS USED	NUMBER OF PASSENGERS	COST ($)
83	228	3,293,000	611,709,000
84	301	4,177,000	799,181,000
85	372	4,572,000	845,523,000

(CONUS) and repetitive traffic between points regardless of number, known as Passenger Standing Route Order (PSRO) traffic. Between FY83 and FY85, MTMC routed less than one-fifth of the total DoD passenger traffic within the CONUS as shown in Table 3-4.

TABLE 3-4. MTMC ROUTED TRAFFIC AS A PERCENTAGE OF TOTAL DoD CONUS TRAFFIC

(FY83 – FY85)

FY	TOTAL CONUS PASSENGER TRAFFIC	MTMC ROUTED			MTMC AS PERCENT OF CONUS TOTAL
		GROUPS	PSRO	TOTAL	
83	5,391,000	649,000	325,000	974,000	18
84	5,791,000	696,000	318,000	1,014,000	18
85	6,080,000	688,000	284,000	972,000	16

NOTE: Includes all modes (air, rail, bus).

ITO/TMO Routed Traffic

The well-developed and professionally staffed ITO/TMO system throughout DoD is delegated the authority to make local arrangements for commercial carrier routings and for the movement of passengers when the conditions identified in Table 3-5 exist.

Under this delegated authority, origin transportation officers are authorized to arrange supplemental bus service from origin to air or rail terminals for group movements (21 or more). Coordination between origin and destination transportation officers is made in advance of movement to assure arrangements are accomplished for supplemental transportation from air or rail terminals to the destination military installation. However, transportation officers may request that

TABLE 3-5. ITO/TMO DELEGATED AUTHORITY

ONE WAY DISTANCE (AIR/SURFACE MILEAGE)	MODE	NUMBER OF PASSENGERS
450 miles or less	Bus, Rail	Any number
450 miles or less	Air (Scheduled Service)	20 or less
Over 450 miles	Air, Bus, Rail	20 or less
Any distance	Charter air taxi	1. Any number of prisoners and guards, human remains with or without escorts, and honor guard details. 2. Twenty or less for categories not covered in 1 above.

MTMC arrange for these or any individual routings even though they are clearly within delegated authority.

When air is the mode selected for individual travelers and scheduled service is used, only the services of FAA certificated carriers (including intrastate carriers and commuter airlines) are used. Carriers having contracts with General Services Administration/MTMC for reduced fares between selected "city pairs" are used as indicated in the Federal Travel Directory. This directory lists city pairs, contract fares by carrier, and priority order of consideration. City pairs listed in the Directory are used, unless exceptions as stated apply. When charter air taxi service is required, only those operators holding tenders of service approved by MTMC are used.

MTMC Routed Traffic

Individual traffic routed by MTMC includes recruits and other repetitive traffic such as trainees moving between schools. Recruits constitute the vast majority of this traffic, which is unique because of the unsophisticated nature of the travelers. Routing of recruits from Military Entrance Processing Stations (MEPSs)

to initial training installations is done in accordance with PSROs issued by MTMC. These routings designate the origin, destination, mode of transportation, individual carriers, schedules to be used, and any other special instructions. The MEPS transportation clerk makes reservations using MTMC routing, prepares travel documentation, and instructs recruits on what to do while in a travel status. As shown in Table 3-4, recruits constitute approximately one-third of MTMC routed traffic. Recruits are moved in scheduled service unless the size of the group warrants charter service. In peacetime, nearly 100 percent of this traffic is in scheduled service with up to 79 percent moving by air, as shown in Table 3-6.

TABLE 3-6. PASSENGER STANDING ROUTE ORDER TRAFFIC BY MODE

(FY83 – FY85)

MODE	FISCAL YEAR					
	83		84		85	
	Number of Passengers	Percent	Number of Passengers	Percent	Number of Passengers	Percent
Air	243,892	75.0	242,887	76.3	224,013	79.0
Bus	77,292	23.8	73,407	23.1	58,268	20.5
Rail	3,743	1.2	2,081	0.6	1,459	0.5
TOTAL	324,927	100.0	318,375	100.0	283,740	100.0

MTMC employs various negotiating techniques to achieve the lowest overall cost meeting mission requirements, whether by bus, air, or rail and passes a specific routing and schedule to the MEPS transportation clerk for implementation.

Group movement procurement (other than the categories referred to previously) is more complex and also involves a traffic management decision process

which includes mission requirement, mode, and price determination. During the past 3 fiscal years, group movements were routed by mode as shown in Table 3-7.

TABLE 3-7. MILITARY GROUP MOVEMENTS WITHIN THE CONUS BY MODE AND TYPE

(FY83 – FY85)

FY	AIR CHARTER		SCHEDULED SERVICE AIRLIFT		LINEHAUL BUS		RAIL	
	Moves	Passengers	Moves	Passengers	Moves	Passengers	Moves	Passengers
83	912	146,246	3,047	109,451	1,893	141,537	18	556
84	1,098	183,894	2,877	107,740	1,938	135,048	12	470
85	1,089	177,669	3,090	110,699	1,938	139,021	8	471

In addition to the linehaul bus figures shown in Table 3-7, in excess of 250,000 passengers were moved in supplemental bus service in each of the 3 years shown. Three thousand separate group movement arrangements were required for these trips to and from airports or rail stations.

Procurement of Group Movements by Air

MTMC arranges commercial air transportation for all DoD passenger groups of 21 or more moving on scheduled air service and all groups of any number in charter air service within the CONUS. Movement requirements are received from the installation transportation office based on requirements provided by the units to be moved. At MTMC, the requirements are analyzed and provided to all carriers approved to do business with MTMC. Award is made to the carrier who best meets DoD requirements at the lowest price. Carriers electing to compete for business submit sealed bids for each individual group movement requirement. Payment is by a Government Transportation Request (GTR) issued by the origin ITO/TMO. All air carriers used by MTMC have undergone a qualification process prior to being

permitted to bid on these group movements. Unlike the CRAF Program, there are no long-term contracts or preestablished pricing.

Air Group Movement Procedures

All commercial air carriers participating in the group movement program are required to sign an agreement with MTMC called a Military Air Transportation Agreement (MATA) (Appendix R). The MATA identifies standards of service that must be followed, and stipulates that any action taken by MTMC to place a carrier in nonuse or disqualification will be accomplished in accordance with MTMC Memorandum 15-1 which outlines procedures for such actions. (See pages 3-29 to 3-30 on the MTMC Quality Assurance Program for details regarding nonuse and disqualification.)

Air Charter Carrier Eligibility

In FY85, 44 different commercial air carriers operated commercial charters for MTMC. The "name brand" scheduled service carriers that most people are familiar with (e.g., American Airlines, Continental Airlines, Delta Air Lines, United Air Lines) do not usually perform charters, as they normally do not have aircraft available to divert from scheduled service. Commercial air carriers who perform charter service exclusively play a major role in domestic group movements. Many of these air carriers are relatively small (generally 3 to 20 aircraft). However, they must meet the same FAA safety requirements of the large scheduled service operators. Many of them are CRAF participants.

Since August 1985, new air carriers desiring to do business with MTMC have been required to follow the procedures outlined in MTMC Memorandum 15-5. These procedures are:

- Airlines must be certificated as an air carrier by FAA and be qualified under the operational specifications of Parts 121 or 135 of the FAR. All new air carriers must be approved by a MTMC Carrier Qualification Review Board prior to bidding on or operating Commercial Air

Movements arranged by MTMC and are required to provide the following documents for review prior to meeting the board:

- Signed copy of the MATA.
- FAA Air Carrier Operating Certificate and a copy of the carrier's Operating Specifications.
- CAB/Department of Transportation (DoT) Certificate to engage in the type services the carrier desires to provide MTMC.
- MTMC Form 6 (Certificate of Insurance) completed, signed, and notarized by the carrier's insurance broker.
- Letter designating the person and/or agency that will provide representation to MTMC.

- The carrier must also schedule an appointment with the Carrier Qualification Review Board for a personal appearance. Written narratives covering the following areas are required at least 2 weeks prior to this presentation:
  - A description of the carrier's organization, equipment, facilities, and maintenance programs.
  - A personnel staffing plan with sufficient information for judging the experience and competence of management personnel, crewmembers, and the company or association representative to MTMC.
  - A description of the carrier's procedures for ensuring timely service and customer satisfaction, to include catering procedures, passenger processing procedures at military installations, and a substitute service plan as required by the MATA.
  - A financial history of the carrier to include a current financial statement verified by a Certified Public Accountant.
- Prior to operating any charter service for MTMC, carriers must have been successfully operating as an air carrier for at least 6 months immediately preceding the effective date of the MATA.
- Undergo a MAC Airlift Capability Survey.

The number of air charters procured by MTMC during FY83 to FY85 is shown in Table 3-8.

TABLE 3-8. GROUP PASSENGERS MOVED BY AIR CHARTER

(FY83 – FY85)

FISCAL YEAR	NUMBER OF CARRIERS	NUMBER OF CHARTERS	PASSENGERS MOVED
83	29	912	146,246
84	43	1,098	183,894
85	44	1,089	177,669

NOTE: See Appendix S for charters by individual carrier.

Scheduled air service also plays a major role in domestic group movements. Group passengers moved by scheduled airlines for FY83 through FY85 are shown in Table 3-9.

TABLE 3-9. GROUP PASSENGERS MOVED IN SCHEDULED AIR SERVICE

(FY83 – FY85)

FISCAL YEAR	NUMBER OF CARRIERS	NUMBER OF TRIPS	PASSENGERS MOVED
83	27	3,047	109,541
84	30	2,877	107,740
85	29	3,090	110,699

NOTE: See Appendix T for group moves by individual carrier.

MAC Domestic Responsibility

MAC is responsible for domestic airlift requirements that fall into the long-term (i.e., greater than 90 days) category. These are movements of small numbers of passengers that can be satisfied by small aircraft (i.e., aircraft with less than

30 seats or 7,500-pound capability). Operators of small aircraft are called Air Taxi Operators under Part 298 of DoT (formerly CAB) Economic Regulations and by FAA under Part 135 of the FAR. In addition to FAR Part 135 requirements, the Secretary of Defense in 1970 established the following requirements that Air Taxi Operators must meet when transporting DoD passengers (see Appendix U):

- Only multi-engine aircraft will be used.
- Each aircraft will be equipped for Instrument Flight Rules flight operations.
- Each aircraft must have both a pilot and copilot aboard.
- Each aircraft operating into known or forecast icing conditions must be equipped with functioning de-icing or anti-icing equipment.

Upon receipt of requirements from MTMC or other DoD Components, MAC issues a solicitation to industry. All operators meeting the certificate requirements and possessing the proper aircraft are eligible to submit proposals. Award is made to the low bidder contingent upon successful completion of a MAC Airlift Capability Survey.

The volume of long-term domestic passenger movement, primarily by Air Taxi Operators, is between $16 million and $20 million annually, as shown in Table 3-10.

TABLE 3-10. MAC LONG-TERM DOMESTIC PASSENGER TRAFFIC

FISCAL YEAR	NUMBER OF CONTRACTORS	COST ($)
83	18	16,587,000
84	14	16,135,000
85	20	20,314,000

NOTE: See Appendix V for volume by contractor

Analysis

A comparison of how MAC and MTMC do business is shown in Table 3-11.

TABLE 3-11. REQUIREMENTS FOR PROCURING COMMERCIAL AIR SERVICE TO MOVE DoD PASSENGERS

REQUIREMENT	MAC	MTMC
1. DoT certificate to engage in air transportation required (Section 401 of Federal Aviation Act of 1958/ Part 298 DoT Economic Regulations)	Yes	Yes
2. FAA certification required under Part 121 or Part 135 of the FAR	Yes	Yes
3. Insurance certificates verified	Yes	Yes
4. Contract or agreement necessary	Contract	Agreement
5. CRAF participation required	Yes	No
6. Method of solicitation	Uniform Negotiated Rate	Competitive Bid
7. Sixty percent commercial revenues required	Yes	No
8. MAC Airlift Capability Survey Accomplished	Yes	Yes
9. Standards of Service established	Yes	Yes
10. Ontime reliability rates established and monitored	Yes	Yes
11. Qualification process established to ensure carriers are capable of satisfactorily accomplishing moves	Yes	Yes
12. Prior commercial experience	No	6 months

Both MAC and MTMC utilize air carriers certificated by DoT under Section 401 of the Federal Aviation Act of 1958 and by FAA under Parts 121 and 135 of the FAR. All carriers are subject to review to determine financial fitness and ability to perform for DoD by a MAC Airlift Capability Survey Team. Relatively

minor differences in quality of service requirements exist, such as MAC requiring 34-inch seat spacing for their long over-water flights and MTMC requiring a minimum of only 30-inch spacing for the shorter haul domestic flights.

There are, however, major fundamental differences between how MAC and MTMC acquire peacetime airlift services:

- MAC uses a uniform negotiated rate concept, making award to carriers based on their contractual commitment of aircraft to the three stages of the CRAF; MTMC employs a competitive bid process and awards business to carriers that best meet DoD requirements at the lowest cost.
- MAC awards contracts for a full fiscal year term; MTMC awards based on individual trip requirements, usually for performance from 24 hours to 89 days ahead, to carriers who are party to the MATA with no other long-term contractual arrangement.
- MAC requires carriers to obtain at least 60 percent of their total annual revenues from commercial sources.

MAC establishes a mobilization base of airlift capability by obtaining the carriers' contractual commitment of aircraft to the CRAF. To obtain the carriers' voluntary commitment of these aircraft, MAC offers a prorata share of the peacetime business. Since passage of the Airline Deregulation Act, several studies were conducted to consider alternate methods of contracting. In each instance, it was determined that the current method of distributing the peacetime business, based on each carriers' contribution of aircraft to the CRAF, is the most feasible method of preserving the mobilization base. This method meets the intent of the 1960 Presidentially approved Courses of Action and the Congress.

MTMC's method of acquiring domestic short-term passenger airlift, based on lowest price that best meets mission requirements, is the most effective and logical procurement method for that traffic. Unlike the international CRAF, there is no requirement for a domestic passenger CRAF since there is abundant domestic passenger airlift to meet DoD peacetime and wartime needs. In emergencies, international CRAF aircraft are used to on-load troops at airfields nearest their origin

station for movement directly overseas, lessening the need for dedicated domestic airlift. Price competition is appropriate for domestic short-term passenger airlift due to the relatively short lengths and the random nature of movement requirements which leads to considerable positioning or depositioning of aircraft within the CONUS. Additional historical background and discussion regarding methods of procurement used by both MTMC and MAC are included in Appendix W.

As indicated in Chapter 2, beginning with the FY66 MAC mobilization base airlift contracts, consideration was given to the success of carriers in expanding their civil business. Initially, carriers were required to obtain a minimum of 30 percent civil business with the ultimate goal being 60 percent (the current MAC requirement). Any carrier that fails to meet these levels has its subsequent year's award reduced accordingly. The basis for the requirement is that carriers who depend almost entirely on military business would have limited expansion capability in emergencies. No "60/40" requirement exists for award of domestic airlift business. MAC does, however, include revenue obtained from MTMC domestic charters in computing CRAF operators' total military revenues. MTMC, unlike MAC, requires each air carrier demonstrate a minimum of 6 months comparable prior commercial service as a clear indication of the carrier's ability to provide suitable service to DoD.

MAC Airlift Capability Survey

Prior to entering into a contract for international or domestic airlift services, the MAC Airlift Capability Survey Team performs a survey of the airline to determine whether the prospective contractor is capable of performing airlift services for either MAC or MTMC. Normally the team consists of one operations and one maintenance representative. These personnel are hand-picked by MAC from rated pilots and experienced maintenance personnel. The team members are required to

attend indoctrination courses at the FAA Academy in Oklahoma City, Oklahoma, as follows:

- Two weeks indoctrination of FAR Part 121
- Two weeks indoctrination of FAR Part 135
- Two weeks indoctrination on Transportation of Hazardous Material.

Prior to visiting the carrier's facility, the survey team coordinates the survey with the FAA district office. This coordination allows the team to discuss and collect data concerning the carriers overall compliance with the FAR, to review records, and to obtain data that will assist in determining the carrier's capability to perform. FAA is invited to participate in the actual survey of the carrier.

The survey team evaluates the carrier's operational, safety, and maintenance programs and procedures, to include review of the carrier's operations manual, training program, proficiency standards, management, crew qualifications, scheduling, dispatch, crew training, maintenance facilities, crew records, aircraft records, weight and balance program, aircraft inspection, quality control, etc. Appendix X displays the checklists used by the team. The team debriefs the FAA district office upon completion of the survey.

The carrier's financial capability is evaluated by the Defense Contract Administrative Service (DCAS). DCAS forwards its analysis to MAC which makes the final recommendation regarding a carrier's financial capability to perform.

The survey team's findings, including the financial findings, are presented to the MAC Contract Airlift Capability Committee which makes the final determination of a carrier's overall capability to perform airlift services for DoD.

Resurveys are conducted only when deemed appropriate. During 1985, the team performed surveys of 59 carriers. Six of these carriers were found "not capable" due to lack of proper FAA certification or aircraft not meeting required specifications.

Analysis

In its July 1963 report, the House of Representatives Commission on Government Operations, based on studies by the Subcommittee on Military Operations, stated:

> ...while continued excessive dependence by civil carriers on military airlift revenues is to be discouraged and their promotion of commercial business encouraged, MATS [Military Air Transport Service] should be careful not to apply arbitrary criteria in evaluating these factors for future contract awards....The civil cargo carriers, working in an industry area hardly developed, and possessed by large new aircraft for performance of MATS business, understandably will look to continued MATS' contracts to keep their new planes busy and to help them meet the economic challenges of air cargo development. They are among the carriers on the "inside" who have received from year to year substantial allocations of MATS' business, and who hope that MATS will continue to put business their way until that unspecified time when they will have assimilated their new aircraft and become more fully self-supporting....
>
> A few operators have been virtually "captive" airlines, supported by MATS for a number of years and deriving practically their sole revenues from military contract awards. Never quite comfortable as protector and sole supporter of these airline dependents, MATS is proposing to condition future awards partially on the demonstrated ability of carriers to develop the commercial side of their operations. The committee believes that this proposal makes sense but cautions that it be carefully and judiciously applied.

In its August 1963 report, the Subcommittee on National Military Airlift of the House of Representatives Committee on Armed Services stated:

> CRAF participants must not rely upon the revenue from military contracts as a principal means of subsidizing the acquisition of new, modern, cargo aircraft.

Secretary of Defense McNamara's statement to the subcommittee concerning those CRAF participants whose income is derived almost exclusively from military business is quoted:

> I think we are deluding ourselves if we believe we are buying any real military capability from a civil airline that devotes the great majority of its time to transporting military

> equipment.... We might just as well buy the equipment and operate it ourselves.... I have been examining, therefore, the extent to which the award of transport business to the civil airlines actually buys us a reserve capacity available for application in a military contingency. And I found many, many situations in which we have been buying transport services from civilian airlines that depend on the military for between 70 and 80 percent of their business. Now in that event we are not buying any reserve capacity at all that is meaningful.

Assistant Secretary of the Air Force Imirie stated:

> We will shortly, commencing with the next procurement cycle, insist that those people who serve MATS likewise perform a useful role in the airlift community at large ... that CRAF participants ... have inbeing or demonstrate an increasing capability to develop substantial civilian air transport business.

In May 1964, the airline industry was advised that, since military requirements alone would not support additional acquisitions of turbine-powered aircraft, contract awards for FY66 would take into consideration the success of carriers in expanding their civil business. The goal for FY66 was that at least 30 percent of their business would be civil business, up to 40 percent in FY67, with the ultimate goal being 60 percent commercial business. During the Vietnam era, the requirement stayed at 30 percent because of the large volume of commercial augmentation required. Subsequently, the requirement was increased to the current 60-percent level.

As indicated above, the basis for the civil/military revenue ratio requirement is that carriers who depend almost entirely on military business would have limited capacity available for application in a military contingency. This is still a valid basis today. The logic of ensuring air carriers are not in business solely based on DoD revenue is appealing.

In accordance with the Federal Acquisition Regulation all contracts awarded by a DoD agency are normally assigned to the local DCAS office for administration. However, DoD Directive 5160.2, "Single Manager Assignment for Airlift Service," and Air Force Regulation 23-17, "Organization and Mission-Field,

Military Airlift Command (MAC)," authorize the Commander in Chief, Military Airlift Command (CINCMAC), to administer and supervise civil air carrier operation under contract to MAC. MAC Regulation 70-1, "Contract Airlift Management, Civil Air Carriers," establishes procedures for administration of contracts and provides policy guidance and uniform procedures to evaluate civil carriers. Primary administration of international contracts is retained by MAC. To assist the Administrative Contracting Officers at Headquarters (HQ), MAC, Contract Administrators (CAs) are located throughout the MAC system (e.g., McGuire Air Force Base (AFB), New Jersey; Travis AFB, California; Elmendorf AFB, Alaska; Yokota Air Base (AB), Japan; Clark AB, Philippines; Charleston AFB, South Carolina; and Rhein Main AB, Germany).

DCAS reviews the financial capability of air carriers performing airlift services for DoD. This review is accomplished on all prospective contractors prior to award of an initial contract and subsequently on an "as needed" basis. DCAS analyses are considered in the final determination made by the MAC Contract Airlift Capability Committee of whether or not prospective contractors are financially and otherwise capable of performing airlift services for DoD. The DCAS office completes SF 1407, "Pre Award Survey of Prospective Contractor Financial Capability." The information furnished shows the financial position of the contractor in terms of cash on hand, current assets, working capitol, current total liabilities, net worth, net sales, net profit, asset test ratio, total liability to net worth ratio, etc. DCAS services are used only in reviewing the financial capability of carriers to perform for DoD. MAC personnel performing the annual rate reviews are experienced in airline requirements and, therefore, should be used to further evaluate the financial capability of the carriers.

The MAC Airlift Capability Survey Team consists of highly skilled military aviators and maintenance personnel. These individuals are, however, lacking

in experience in commercial airline activities. As such, they may not be capable of differentiating the effectiveness of a carrier's operation. While the scope of the survey checklist is comprehensive, it does not include a requirement for a comparison to benchmark management indicators which would reflect the relative quality of a carrier's operation. In like manner, there is no periodic reassessment of such indicators during the contract performance period.

Surveillance/Quality Assurance

Regulations published by civil air regulatory and supervisory agencies govern the safety of air transportation, airworthiness of aircraft, proficiency of flight and maintenance crews, minimum performance limitations, minimum operating limitations, maximum weight limitations, and requirements for first aid and emergency equipment.

International (MAC)

MAC Ramp Inspections

MAC Regulation 70-1, "Contract Airlift Management, Civil Air Carriers," specifies that no-notice maintenance ramp inspections will be conducted on civil aircraft operating MAC international missions. This inspection is basically a visual, walkaround check utilizing MAC Form 235a, "MAC Contracting Inspection Checklist – Maintenance" (Appendix Y). It does not entail unfastening engine cowlings, airframe inspection panels, etc., unless necessary to resolve discrepancies. The inspection also includes a review of the aircraft log, noting writeups and corrective actions taken or deferred. Personnel performing the inspection are military skill level 7 technicians (see Table 2-16) and/or equivalent qualified DoD or contracted civilians. When an item is not satisfactory, the problem is reviewed with the appropriate crewmembers utilizing the aircraft maintenance manual and minimum equipment list as a guide. When serious deficiencies are not resolved, the nearest FAA maintenance representative is contacted for guidance and decision. Only an

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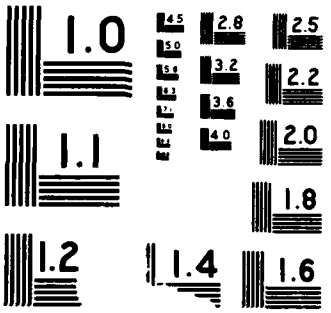
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FAA representative has the authority to ground an aircraft. However, the local MAC commander may refuse to load passengers and/or cargo if the aircraft is considered unacceptable, even if FAA does not ground the aircraft.

MAC Regulation 70-1 also specifies that such ramp inspections will be performed on a minimum of 10 percent of each carrier's aircraft operating through selected MAC stations (Charleston AFB, South Carolina; Clark AB, Philippines; McChord AFB, Washington; McGuire AFB, New Jersey; Rhein Main AB, Germany; Travis AFB, California; Yokota AB, Japan).

During FY85, these inspections did not reveal any significant maintenance discrepancies (safety items requiring grounding of the aircraft or refusal of the local MAC Commander to board passengers).

MAC estimates that these ramp inspections presently cover approximately 40 percent of MAC contract operations. These inspections are not applied to commercial operation (Category A, Y, or Z), city pairs, or airlift arranged by MTMC.

Standards of Service Inspections

"Range Rider" Program. MAC CAs are required to monitor on-load and to ride on contract charter missions on a regular basis to observe the inflight performance of the crew and experience first hand the overall service provided to DoD passengers. CAs check flight comfort needs such as cabin temperature/ventilation, passenger briefings and announcements, meal service, etc. MAC Form 209, "Civil Carrier Ground and Inflight Inspection Report" (Appendix Z), is used by CAs. This program is called the "Range Rider" Program. Previously, each CA was required to perform one Range Rider mission each quarter, but recent management directives doubled this requirement. There are 13 CAs located throughout the MAC system in addition to three Administrative Contracting Officers located at HQ MAC. During FY85, Range Riders traveled aboard approximately 75 Category B missions. These inspections found such unsatisfactory items as air conditioning/lavatories

inoperative, dirty ovens, inoperative coffee makers, dirty/torn seats, dirty floor coverings, inadequate service from flight attendants, insufficient beverages, etc. Many of the unsatisfactory items were corrected on the spot or during the next scheduled maintenance check. All CAs are fully qualified contracting officers. En route to their field assignment, CAs are sent to HQ MAC for initial training in the unique aspects of contract airlift. When possible, new CAs are also brought into HQ MAC for a 2-year training program prior to their field assignment.

Contract Coordinator (CONCOR) Program. Ensuring adequate standards of service on MAC Category B airlift is the responsibility of the CONCOR. CONCORs are assigned at each location having scheduled Category B service and at HQ MAC, 21st and 22nd Air Forces and the 834th and 322nd Airlift Divisions. It is important to note that, with few exceptions, all CONCORs perform this inspection function as an additional duty. Yokota AB, Japan, and Rhein Main AB, Germany, are the only stations with scheduled Category B passenger flights that have full-time positions allocated to perform CONCOR functions.

The HQ MAC CONCOR works with the Administrative Contracting Office located in the HQ MAC Directorate of Contract Airlift. The CONCOR and the Administrative Contracting Office work jointly to resolve matters affecting performance and administration of Category B flights. These issues include airframe configuration, standards of service, documentation of MAC Form 8, "Civil Aircraft Certificate" (Appendix AA), inspection reports, etc. The MAC CONCOR is required to ride each carrier at least one time per year to evaluate and report on the level of service provided by the contractor.

Aerial Port CONCOR. The basic responsibility of the aerial port CONCOR is to observe/inspect actions of the MAC contract carrier, to advise the contract administrator of any failure on the part of the carrier in complying with provisions of the contract, and to certify actual missions performed and loads carried

by the carrier. CONCORs have no authority to make changes to the contract, to authorize the contractor to deviate from contractual terms, or to obligate the Government in any way with the contractor. In addition to these basic duties, the aerial port CONCOR has several specific responsibilities:

- Coordinate with the CA and aircraft maintenance inspector to ensure contract compliance.
- Coordinate with local agencies as necessary, including carrier representatives, to provide for their smooth operation within the terms of the contract. This includes providing that support the Government is required to provide within the terms of the contract and advising the responsible agency to bill the carrier for those services that are reimbursable.
- Inspect the carriers' aircraft for standards of service, traffic procedures, and services to ensure compliance with contract terms and mutually agreed schedules. Report all discrepancies and violations to the CA for resolution/action.
- Make a written record of all inspections.
- Ensure the MAC Form 8 (the document that certifies that contracted services were performed and serves as the vehicle for payment of services) is complete and correct.
- Coordinate on routing and schedule with local agencies concerned.
- Notify CAs of delays, need for substitute service, or other problems and for approval of actions to be taken.
- Monitor delays to ensure contract compliance and enforce contractual provisions concerning passenger convenience delays.
- Report all discrepancies to the CA.
- When traveling on a Category B mission, perform an en route inspection using the MAC Form 209.

The aerial port CONCOR is a fully qualified officer, civilian, or noncommissioned officer who is required to complete specialized training in order to perform CONCOR functions.

The primary duty of the CONCOR is to provide necessary carrier surveillance to ensure compliance with the contract, report violations, and complete

checklists for evaluating carrier compliance with the contract. The CONCOR performs interior standard checks on 100 percent of passenger carrying missions and 50 percent of cargo missions at origin and turnaround stations.

Three forms are used to accomplish the basic checklist. The MAC Form 166, "Civil Air Carrier Passenger Contract Airlift Checklist" (Appendix BB), is used to inspect all passenger carrying aircraft. This form addresses all interior standards covered in the contract. The MAC Form 166a, "Civil Air Carrier Cargo Contract Airlift Checklist" (Appendix CC), is used for inspection of 50 percent of cargo missions. The Form 166a is a two-part form. Part I is the interior standards checklist and Part II is concerned with the allowable cabin load and must be accomplished at all origins in the United States. The third form is the previously referenced MAC Form 8 which certifies that the carrier performed the required services.

Two other forms are used on an "as required" basis. The MAC Form 209 (also previously referenced) is used when the CONCOR flies on a military charter flight. It is used to record the quality of en route and inflight services. Whenever a contract violation is discovered, a MAC Form 166b, "Contract Discrepancy or Violation Notice – Civil Aircraft" (Appendix DD), is accomplished. Every contract discrepancy is listed with the recommended corrective action. The CONCOR and the airline representative both sign the form. Within 24 hours, copies of the MAC Form 166b are sent to the CA. (Note: Only a CA may determine if a contract violation occurred. CONCORs do not possess a contracting warrant.) The CA determines if a discrepancy in performance or a violation of the contract occurred. The CA resolves the matter or refers it to higher headquarters for resolution.

A synopsis of CONCOR duties is shown in Table 3-12.

TABLE 3-12. CONCOR RESPONSIBILITIES

CONCOR DUTY	COMMAND CONCOR	NAF[1] CONCOR	ALD[2] CONCOR	AERIAL PORT CONCOR
Develop policy	X	X	X	
Surveillance of carrier	X	X	X	X
Resolve problems concerning contract interpretation	X	X	X	X
Observe, inspect aircraft	(a)	(a)	(a)	X
Issue notice of violations	(b)	(b)	(b)	X
Ensure Form 8 is correct				X
Ensure training is current			X	
Supplement policies for geographic areas		X	X	
Ride all contract carriers yearly	X			
Notify CA of delays, substitute service				X

[1]Numbered Air Force.
[2]Airlift Division.

NOTES:

(a) Inspects or accompanies inspector when on a CONCOR surveillance visit.
(b) Issues contract violations when on a CONCOR surveillance visit.

Other Surveillance Areas

In addition to the quality of service check on MAC Category B flights, customer feedback is another source of evaluating standards of service. The current method of customer feedback is through the MAC Form 253, "Customer Comments" (Appendix EE).

MAC currently makes the questionnaires readily available in all terminals for any passenger desiring to comment on MAC services. MAC encourages passengers to submit comments to the aerial port for local resolution, thereby giving local managers a better view of their system and providing faster problem resolution. Passengers may, at their convenience, forward the questionnaires to

HQ MAC. Some 40 percent of the approximately 500 questionnaires received yearly by HQ MAC have favorable comments. Each negative comment is answered whenever the name and address are provided. In order to provide some measure of anonymity, name and address are optional items on the form.

Domestic (MTMC)

Quality Assurance Program

The quality of service for DoD personnel traveling by commercial contract and charter air transportation within the CONUS is prescribed in the Military Traffic Management Regulation (MTMR) and further implemented in MTMC Memorandum 15-5, "Boards, Commissions and Committees Processing of Air Carriers Applications to Provide Charter Service for MTMC," which outlines procedures to be followed by air carriers who wish to provide charter air service to DoD. MTMC Memorandum 15-1, "Transportation and Travel Procedures for Disqualifying and Placing Carriers in Nonuse," outlines procedures for placing carriers in a nonuse status. The quality standards outlined in the MTMR apply to all domestic commercial air transportation procured by MTMC.

Monitoring Carrier Service

MTMC prescribes a minimum standard of service and may give preference to carriers providing accommodations and services exceeding these minimums. The standards prescribed cover flight comfort needs such as seat spacing, seat specifications (size/adjustability), pillows and blankets required, and number of flight attendants and lavatories based on aircraft capacity. Food service, including types of meals and specific meal periods, are covered as well as meal service in the event of flight interruptions. Briefing of passengers in emergency procedures by qualified personnel is also specifically covered.

Service provided by carriers is monitored by use of a DD Form 1341, "Report of Commercial Carrier Passenger Service" (Appendix FF). The

DD Form 1341 is a "fold and seal" form designed to provide a record of the movement as initially scheduled, and as actually performed by the carrier. The reverse is pre-addressed to the Commander, MTMC (postage and fees paid). When completed by a group leader or individual traveler it can be folded, sealed, and immediately mailed as first class mail. The form provides for recording actual times of departure and arrival and the nature of service provided by the carrier. All irregularities, deficiencies, unsatisfactory conditions or service, as well as exceptionally good service noted, may be included in the report.

Submission of the report is mandatory for all group movements arranged through HQ MTMC; all movements of recruits, enlistees, and inductees traveling from MEPSs to initial training stations; and all movements by chartered air taxi service. The form may also be used by individuals and groups routed under delegated authority and by military personnel traveling at their own expense while in a leave status.

MTMC traces all DD Forms 1341 not received within 30 days after the travel date through transportation officers. ITOs/TMOs contact the designated group leaders for expeditious completion of the forms when requested by MTMC. See Appendix GG for a schematic of the processing flow for DD Form 1341.

Additionally, MTMC and/or ITOs/TMOs at origin, en route, or destination routinely perform standard of service checks on carrier equipment (aircraft, buses, etc.) to ensure compliance with the standards identified in the MTMR. MTMC quality assurance inspectors also accompany some (e.g., four in FY85) charter flights as a surveillance check. These visits are unannounced.

In the event prescribed standards of service are not met, the following corrective actions may be taken.

When warranted, MTMC convenes a Passenger Review Board to consider whether a carrier's substandard performance is cause for disqualification. The

MTMC Director of Passenger Traffic is chairman of the Board and other members include representatives from other divisions within the Passenger Traffic Directorate and the MTMC Staff Judge Advocate. The carrier may be represented if he so chooses. These boards can disqualify a carrier if it did not consistently meet the MTMC 85 percent ontime reliability standard, failed to meet MTMC standards of service, operated its equipment in an unsafe manner, did not comply with Government (Federal or state) regulatory requirements, or had unsafe equipment.

Nonuse. MTMC Memorandum 15-1 outlines procedures for placing carriers in "nonuse" status. Nonuse is the penalty for failure to comply with, or violations of, the terms of negotiated agreements; tariffs; tenders of service; commercial or Government bills of lading; contracts or similar arrangements determining the relationship of the parties; and of status and regulations which pertain to safety, security, ethics, criminality, wages, or equal opportunity. Carriers may, when necessary to protect the Government's interest, be placed in nonuse not to exceed 30 days pending a disqualification determination, or they may be placed in indefinite nonuse pending the correction of a specific problem.

Disqualification. MTMC Memorandum 15-1 also provides procedures for disqualifying a carrier. A formal Passenger Review Board is convened at which the carrier is represented.

A synopsis of MTMC Quality Assurance actions in connection with Passenger Air Carriers is included as Appendix HH.

MTMC's major quality assurance activities regarding passenger transportation during FY83, FY84, and FY85 are synopsized in Table 3-13.

Analysis (Surveillance/Quality Assurance)

MAC surveillance is accomplished by specialists in aircraft maintenance, contracting, and transportation. MTMC surveillance is performed by individual travelers, group leaders, MTMC officers, ITOs/TMOs, and MTMC quality assurance

TABLE 3-13. MAJOR QUALITY CONTROL ACTIONS BY MTMC

(Passenger Airlift)

ACTION	FY83	FY84	FY85
Status of Service Check	107	259	250
Surveillance	0	23	4
Letter of Warning	12	33	16
Letter of Appreciation	5	42	10
Nonuse	0	0	1
Boards to consider			
Qualification	(a)	(a)	2
Disqualification	4	4	3
No Further Action	1	0	1
Suspension/Disqualification	2	2	2(b)
Disqualification	2	2	2(b)
Awards	(a)	(a)	5

NOTES:

(a) Program began in FY85.
(b) Dual Action: Suspended/disqualified followed by full disqualification.

inspectors. The requirement for quality assurance surveillance is common to both agencies; however, the method, forms used, and enforcement policies differ. For example, MAC uses three separate forms (MAC Forms 166, 209, and 235a) to accomplish the inspection process and a separate form (MAC Form 166b) to record a contract violation or discrepancy. MAC uses MAC Form 209 when a CA/ Administrative Contracting Officer/CONCOR (Range Rider) rides a charter mission; this form includes inflight services and other contractual requirements in addition to flight comfort needs.

MAC checklists are specific in nature, reflecting contractual provisions. MAC Form 166, for example, has 42 items. MTMC, on the other hand, uses two more general forms, DD Form 1341 and MT-PT Form 110R, "Commercial Air Movement Standards of Service and Surveillance Check List" (Appendix I I), which cover inflight performance, comfort needs, and any additional comments.

MAC Form 166 is designed for the compliance aspects of the contract and is necessarily very detailed. MAC Form 235a is designed for use by a qualified maintenance inspector. Both forms are designed for inspecting the aircraft while at an originating or turnaround station. MAC Form 209 is designed for the Range Rider or the CONCOR and is concerned with both inflight and terminal services. DD Form 1341 used by MTMC is designed to be accomplished by any traveler or group leader. MT-PT Form 110R is designed to be accomplished by a quality assurance inspector and is more specific regarding flight comfort amenities and inflight services.

If, during CONCOR inspection, a contract violation is detected, the violation is reported through channels. Reporting is on a monthly basis. When a contractor has a contract discrepancy rate of 10 percent or more during a 3-month period, MAC can start default action by issuing a "cure notice" or declare the carrier ineligible for additional "expansion" business until the condition is corrected.

The ramp inspection provides an opportunity to observe, on a sampling basis, the general appearance of a carrier's aircraft and is intended to detect obvious indications of conditions that might warrant repair prior to flight. Also, the ramp inspection samples compliance with a number of FAA safety requirements. Historically, the ramp inspections have documented only minor and cosmetic type discrepancies. This is substantiated by a review of all the ramp inspections documented since HQ MAC imposed the 50-percent requirement at designated locations, subsequent to the Arrow Air accident. However, there is no documentation or

corporate memory of an aircraft being grounded in recent years because of MAC ramp inspection findings.

MAC Form 235a guides the ramp inspection. The ramp inspection performed by MAC is duplicative of the aircraft crew walkaround inspection required prior to each flight by FAA regulation.

Domestic carriers are monitored by MTMC through DD Form 1341 and MT-PT Form 110R. When an adverse trend develops, the carrier is sent a Letter of Warning. If service does not improve, the carrier is placed in nonuse pending a Passenger Review Board. This review board can disqualify a carrier for up to 2 years or place the carrier in nonuse until the problems are corrected. In the event of a serious safety-related incident, the carrier can be placed in nonuse immediately pending a Passenger Review Board. Nonuse would continue until the carrier satisfies MTMC that the problem, or that a noted problem, was corrected.

Although MAC/MTMC methodologies for surveillance are different, it appears that some standardization is feasible. Consolidation of DD Form 1341 and MAC Form 209 with MT-PT Form 110R appears to be possible.

Performance and Default Provisions

MAC Contracts

Pertinent performance and default provisions of MAC's airlift contracts are provided below.

Certification and Safety

The contracts require the aircraft to be licensed, operated, and maintained in accordance with all applicable rules and regulations of FAA and DoT, giving particular attention to the responsibility of the air carriers to perform air transportation services with the highest degree of safety. Carriers must have appropriate operating authority from DoT (formerly CAB) and operate under applicable parts of the FAR.

- If the carrier's operating authority is suspended, canceled, or revoked, the Government may cancel the contract in whole or in part.
- If CINCMAC at any time during the performance period of the contract considers that safety of flight is questionable, he may immediately suspend the carrier from further performance of all or any part of the contract until CINCMAC determines that the question of safety of flight has been resolved satisfactorily.

Standards of Service

Schedule Reliability. The contracts require the carrier to maintain a minimum 80-percent reliability rate based on 30 or more departures from originating and turnaround stations over a 3-month period. A delay occurs when the aircraft departs the gate more than 18 minutes after the scheduled departure time. Failure to maintain the 80-percent rate is reason for termination action under the "default" clause. As an incentive for higher ontime reliability, the Government may choose not to buy additional (expansion) airlift services if the carrier fails to maintain an 85-percent reliability rate.

Contract Discrepancies. A contract discrepancy occurs whenever the contractor's aircraft or service does not meet the provisions specified in the contract, e.g., seats broken or not set at 34-inch spacing, insufficient meals. The contracts require the carrier to maintain a discrepancy rate not to exceed 10 percent based on 30 or more departures over a 3-month period. Failure to maintain a 10 percent or less discrepancy rate is cause for terminating for default. In lieu of default action, the Government may choose not to buy additional (expansion) airlift services.

Substitute Service. Whenever the contractor fails to make an aircraft available for departure within 16 hours from the originating station or within 4 hours from an en route station, MAC may require the contractor to acquire substitute service, perform the mission with military aircraft, or cancel the mission. The contract and MAC Regulation 70-1 define the contractor's responsibility with regard to care of passengers during this delay.

Default Clause

The airlift contracts also contain the standard "default" clause for fixed price Supply and Service contracts as required by Federal Acquisition Regulation 52.249-08. Under this clause, the Government has the right to terminate the contract for default if the contractor, after having been given a reasonable time, fails to correct any deficiency other than those conditions cited above.

Quality Assurance Actions

Following is a summary of recent actions taken by MAC under these contract provisions:

- Four carriers denied participation in FY85 contracts due to lack of proper FAA certification.
- One carrier issued a "cure notice" for less than 80-percent schedule reliability for one 3-month period.
- One carrier denied expansion business for less than 85-percent schedule reliability for five successive 3-month periods.
- One carrier issued a "cure notice" and denied expansion business for exceeding the 10-percent discrepancy rate for three successive 3-month periods.

MTMC Military Air Transportation Agreement

The Military Air Transportation Agreement (MATA) establishes terms and conditions for participation in passenger commercial air movements arranged by MTMC. The MATA limits participation to those carriers holding operating authority required by FAA, clearly delineates standards of service to be met, and designates who shall perform standards of service checks.

Standards of Service

The carrier must maintain an ontime reliability rate of 85 percent during the latest 90-day period as the minimum acceptable standard of performance. The reliability rate is computed on the number of departures and arrivals relative to the number of delays. For the purpose of calculating reliability, a carrier is assessed one

delay if more than 1 hour late from scheduled departure and an additional delay when an individual delay exceeds 8 hours but is less than 12 hours. When a delay exceeds 12 hours, one further delay will be assessed. For example, a chargeable delay exceeding 12 hours will be assessed a maximum of three delays for the purpose of computing reliability.

Carrier Failure to Provide Service

When a delay occurs at any point of a charter, the carrier is required to:

- Immediately inform MTMC of the delay and actions being taken to correct the situation.
- Arrange for meals for passengers at normal meal hours during such delays.
- Arrange for overnight lodging, and necessary transportation to and from such lodging, when delays extend through nighttime hours.
- Report schedule changes to bus carrier(s) assigned to perform supplemental ground transportation, in order to assure availability of service for delayed flights and to preclude unnecessary charges for waiting times or cancellations. In the event the carrier cannot contact the supplemental carrier, MTMC will be notified for assistance.
- If a delay is determined to be chargeable against the carrier, the carrier will be responsible for any other added costs, such as meals, lodging, and transportation to and from meals and lodging, bus waiting time charges, and cancellation or rescheduling charges.

Substitute Service

When a carrier is unable to perform in accordance with scheduled departure times at any location, for any reason other than an uncontrollable delay, the carrier will provide at its own expense substitute aircraft from its own resources or from another carrier certified under Part 121 of the FAR. The substitute aircraft will be properly serviced, loaded, and airborne from the departure point as soon as possible but not later than 8 hours after the original scheduled departure time. The carrier has up to 4 hours from the original departure time to demonstrate to MTMC's satisfaction that (1) satisfactory substitute service will be provided within the above specified 8-hour period or (2) that the original aircraft will be repaired and airborne

from the departure point within the same time period. If one of these arrangements has not been confirmed to MTMC's satisfaction by the 4-hour point (or at any later, additional point), MTMC may require the carrier to transport the delayed military traffic within such additional time as the Government may allow, or may cancel the charter and acquire substitute service using normal MTMC procurement procedures.

Violation of Agreement

Any formal complaint concerning alleged irregularities in performance of Commercial Air Movement charters by the carrier must be reported to MTMC.

A violation of the MATA or a failure to perform in accordance with the terms of a Rate and Service Proposal or other lawful requirement, may result in disqualification of a carrier from bidding on MTMC charter solicitations. A violation of an FAA or U.S. military regulation that affects safety of flight or safety of passengers may justify the cancellation of charter flights already agreed to, such cancellation to be at no cost to the Government.

Quality Assurance Actions

Requirements and remedies established in the MATA and MTMC Memorandum 15-1 provide MTMC with powerful tools necessary to discipline the passenger airlift system. Failure to meet standards established by DoD and agreed to by participating carriers results in rapid reaction by MTMC. Carriers are warned, put in nonuse status pending review board hearing, or disqualified. Since no long-term contract is involved, MTMC may invoke nonuse status immediately. This is particularly important if safety issues are involved. Generally, a Letter of Warning gets the attention of the offending carrier and causes swift improvement in problems cited. If problems persist, MTMC can quickly escalate available remedies to ensure that DoD passengers receive the safe, comfortable, ontime service to which they are entitled.

Analysis

Both MAC and MTMC have in-place mechanisms to remedy substandard performance. These mechanisms relate primarily to the provisions of the MAC contract and the MTMC agreement. As such, they are primarily concerned with the service standards detailed in the contract/agreement and do not address the broader aspects of corporate performance. Specific standards should be included in the contract/agreement which address these broader aspects. Procedures should be established to continually assess corporate performance. The contracts/agreements should specifically require the immediate suspension from further DoD business in those cases where a fatal accident or serious violation of FAA rules and regulations occurs. Procedures need to be established to determine the length of the suspension period. Further, there currently exists no procedure to maintain DoD oversight of quality assurance action taken by the TOAs, nor is there a procedure to resolve conflicting action taken by one TOA and not the other. In this regard, establishment of a passenger airlift review process would seem appropriate. This process should include a hierarchical system of TOA and DoD reviews of carrier performance.

DoD PASSENGER MOVEMENT OUTSIDE OF THE CONTROLLED DoD SYSTEM

Under certain circumstances, DoD personnel may travel using air carriers not falling within the safety and quality of service standards established by the various branches of the Government. These instances are described in the following sections.

Use of foreign flag air carriers for official travel is prohibited when certificated U.S. flag service is available in accordance with the so-called "Fly America" provision contained in the International Air Transportation Fair Competitive Practices Act of 1974 (49 U.S. Code 1517).

Conditions under which foreign flag carriers may be used are, as stated, governed by U.S. law implemented in the Joint Travel Regulations, generally as follows:

- U.S. flag service is not available.
- There will be a 6-hour or longer wait for departure on a U.S. flag carrier.
- It would take 12 hours or more to complete the journey on U.S. flag carrier and the foreign carrier itinerary elapsed time is 3 hours less.
- Travel can be paid for in U.S.-owned excess foreign currency (see 55 COMP GEN[1] 1355).
- A 48-hour delay would result waiting for U.S. flag service causing excess per diem payments to the traveler.
- Traveler would be required to leave between the hours of midnight and 6 a.m. on U.S. flag carrier.
- As a result of mechanical or other problems en route, the U.S. flag carrier reroutes the traveler on foreign flag after having attempted to obtain U.S. flag carrier service first.
- When only first-class accommodations are available in U.S. flag service, foreign flag may be used if it is lower cost (see 60 COMP GEN 34).

U.S. flag air carriers must be used to the maximum extent possible; however, deviation is authorized when:

- Foreign air service is the only means available.
- Use of a foreign flag carrier will permit payment in U.S.-owned excess foreign currency.
- Terms of the foreign military sales agreement or contract specify that a foreign flag carrier will be used to execute the contract.

Included in the nonappropriated fund instrumentality category are such wide ranging organizations as the Army Air Force Exchange Service (AAFES), Military Service Academy, and Morale, Welfare, and Recreation (MWR) organizations within each Military Service.

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[1]Comptroller General.

The GTR, SF 1169, is the device used to exercise control over procurement, accounting, and auditing of official travel; however, the Comptroller General of the United States has ruled that AAFES travel and MWR travel are not for the account of the United States, nor is it official business (see 49 COMP GEN 578), making it illegal to use a GTR for such travel. Examples of types of travel not subject to control are:

- Sports teams of military service academies could (and have) traveled using other than Part 121 air carriers.
- MWR activities, such as tour groups, are not subject to GTR rules.

There is no control of any kind over how a serviceman or woman may travel when on leave or pass. It is totally up to the discretion of individuals how and where they spend their money to travel when they are "off duty."

Certain DoD Components are authorized to charter airlift beyond the scope of MAC and MTMC overnight. Examples include the Army Corps of Engineers and aircraft, which may carry DoD personnel, to be used for air defense training, jump platforms, etc.

Analysis

Maintaining surveillance of DoD passenger airlift is compounded by the variety of travel opportunity outlined above. There is need to establish guidelines as they relate to these diverse travel opportunities.

PASSENGER AIRLIFT USER PERSPECTIVE

The study group was provided a formal assessment of the passenger airlift system by each of the Military Services. Copies of their assessments are included as Appendix JJ for the Air Force, Appendix KK for the Navy, Appendix LL for the Army, and Appendix MM for the Marine Corps.

As documented by the Services overall, both MAC and MTMC are viewed as responsive with no systemic problems relating to the acquisition process having been identified.

ECONOMIC CONSIDERATIONS

The Directorate of Transportation, Headquarters, U.S. Air Force, performed a cursory review of the costs involved in moving the international and CONUS charter passenger movements on organic vice commercial aircraft. In arriving at the gross estimates the following assumptions were made:

1. The frequency of service will drive the fleet sizing while the traffic pattern will remain the same as it is today.
2. The passengers will travel aboard aircraft designed principally to carry people.
3. Load factors will average 75 percent.
4. Aircraft will operate an average of 7 hours/day, 320 days/year.
5. CONUS commercial gateways will continue as the principal origin/ destination of MAC international charter flights.
6. All aircraft maintenance will be handled by contract logistics support.
7. National airlift policy will be changed to allow aircraft organic to the military to compete with private sector capability.
8. The airlift crew force will experience a 100-percent roll over every 2 years.
9. Joint Chiefs of Staff exercise support and MTMC Commercial Air Movement requirements will require worst-case fleet sizing because the requirements are unstable.

Based on these assumptions, following are the estimated costs:

AIRCRAFT ACQUISITION:		
10 wide-body aircraft (includes 2 backup)	@ $88 M =	$ .880 B
12 narrow-body aircraft (includes 2 backup)	@ $20.5 M =	.246 B
	Total	$ 1.126 B
CREW ACQUISITION:		
277 pilots, 139 flight engineers, 1,386 flight attendants		$ .305 B
	Total Startup Costs	$ 1.431 B
ANNUAL RECURRING COSTS		$ .344 B

The above figures do not account for potential impact on the CRAF. In exchange for peacetime passenger and cargo business, industry obligates over 250 wide body equivalent aircraft for DoD use in time of war. To provide this same wartime capacity organically, DoD would incur a multibillion dollar annual recurring cost in addition to the initial acquisition expense.

Table 3-14 depicts a comparison of the standards of service provided by commercial and military aircraft for passenger airlift.

AIR CARRIER INSURANCE

Carrier Requirements

DoT requires all U.S. flag airlines (except air taxis) operating anywhere in the world to carry specific minimum limits of liability insurance as follows:

- Passenger – $300,000 per passenger with a maximum for each occurrence limited to 75 percent of the number of seats installed on the airplane.
- Property Damage – $20 million per aircraft involved in each occurrence.
- Person Other Than Passenger – $300,000 limited to $20 million per occurrence.

TABLE 3-14. STANDARDS OF SERVICE COMPARISON

STANDARD OF SERVICE	COMMERCIAL	MILITARY
Comfortable seats	yes	no
Seat width	17½" (16½ on narrow body)	17"
Seat spacing	34"	34"
Seat recline	35°	35°
Side facing web seats	no	yes
Aisle width	16" (15" on narrow body)	17"
Lower lobe baggage compartment	yes	no
Uniform cabin temperatures	yes	no
Floor covering	yes	no
Blankets/pillows	yes	yes
Overhead storage	yes	no
Individual seat lighting	yes	no
Lavatories (1 for each 40 passengers)	yes	no
Pleasant cabin decor	yes	no
Headrest covers	yes	yes
Potable water	yes	yes
Hot inflight meals	yes	no
Acceptable noise level	yes	no
Inflight movies	yes	no
Inflight stereo music	yes	no
Towelette service	yes	no
Emergency and safety equipment	yes	yes
Acceptable public address system	yes	no
Alcoholic beverage service	yes	no
Soft drink service	yes	yes

Under terms of the Warsaw Convention of 1929 (49 Stat 3000) or as amended at The Hague (the Netherlands) in 1955, the liability of carriers in international service is limited to $75,000 per passenger when carrier ticketing and routing requirements are met. Even though Warsaw Convention rules may apply to U.S. flag international carriers, DoT requirements stated above must still be met. MAC contracts require the above coverage and specifically state that carriers cannot avail themselves of the limits established by the Warsaw Convention.

Personal Flight Insurance

As required by the MTMR, it is the responsibility of the origin passenger transportation activity to ensure that each person scheduled to travel on a charter commercial air flight is briefed concerning the availability of flight insurance and that application forms are readily available in convenient places. The briefing should be presented as far in advance as possible so that each passenger may adequately consider securing insurance. Travelers who fail to obtain insurance at the military installation and who desire to purchase trip insurance should be afforded ample time and opportunity at the airport prior to scheduled flight departure. Flight insurance obtainable from machines located in civilian airport terminals in most states does not provide insurance coverage for passengers on DoD charter flights whether operated by supplemental or certified route air carriers. For MTMC contract charter flights within CONUS, the group leader should have, in his possession, a supply of insurance application forms which provide coverage for DoD charter flights. The group leader may provide these application forms to group members who wish to obtain additional insurance prior to departure. For MAC contract international charter flights, insurance application forms for insurance covering DoD charter flights are available from MAC passenger service personnel, or from insurance company personnel located adjacent to the MAC processing area. For MTMC CONUS flights, the group leader should be assigned the responsibility

for ensuring that the completed insurance application forms are mailed prior to departure. Insurance application forms obtained from MAC passenger service personnel are preaddressed and postage paid for traveler convenience. It should be noted that the prerogative for purchasing insurance coverage rests with the traveler and application forms are available solely as a matter of convenience for the traveler. There is no intent that transportation or other military personnel act as insurance salesmen or agents.

Analysis

While the MTMR requires these actions, the study group was unable to determine the degree of compliance. We were advised by the U.S. Army Forces Command that the soldiers in the Gander, Newfoundland, crash were not afforded the opportunity to purchase such insurance.

ACKNOWLEDGMENTS

This review of passenger airlift policies and procedures was performed at the direction of the Assistant Secretary of Defense (Acquisition and Logistics), Dr. James P. Wade, Jr., who appointed an Executive Review Group composed of senior-level Department of Defense military and civilian leaders with representatives from the Department of Transportation and the Federal Aviation Administration, and a Working Group made up of representatives from the Military Departments, Transportation Operating Agencies, and the Federal Aviation Administration.

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